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Promises of New Pools in Oklahoma, Gulf Coast Texas, South Louisiana and Central Michigan

By JAMES McINTYRE

WITH Oklahoma production down 54,680 bbls. a day, California reduced 18,750 bbls. per day and Kansas 5,105 bbls. per day, the production of the United States for the week ending February 24 was reduced 63,631 bbls. per day compared with the crude output in the preceding week. Texas' production was increased 13,546 bbls. per day, the largest increase having been in the Coastal fields.

What may be an important pool was opened in Section 14-17-1w near Langston, Logan County, Oklahoma by the Stanolind and Amerada companies with a well good for 700 to 1,000 bbls., but only 5 feet in the Wilcox sand. The well will be completed when sufficient tankage for a good test has been installed. The Barnsdall Oil Co. and others have a promising well near completion in Section 12-15-4w, in Logan County. These and recent discoveries near Meeker, Lincoln County and in the Fitts area in Pontotoc County and big wells in the South Burbank field in Osage County are very heartening to wildcatters in Oklahoma, in which state there is a vast area that has never been tested.

The Cleveland district in Liberty County, Texas, received a setback in the past week when a test located 1,866 feet from the Gulf Production Co.'s discovery well appears to have missed the upper Cockfield sand and drilled into water at a greater depth.

A prolific deep sand was opened in the northwest flank extension of the East Hackberry Dome in Cameron Parish, Louisiana, at 7,593 feet, making it the deepest oil well in Louisiana. The deepest well ever drilled in Louisiana was abandoned as dry at 8,242 feet last week. It was drilled in Calcasieu Parish by the Yount Lee Oil Co.

Skelly Oil Co. has a test in northern Matagorda County, Texas, showing gas with a distillate odor. Casing was being run and the showing is taken as the forerunner of a new oil pool.

Tests in East Central Texas continue to yield wet gas showings that keep alive the feeling that one or more new important pools will be opened in that big region.

In East Texas the production of illegal oil goes on with no signs of a let up. In fact, it is believed that more "hot" oil is leaving the field now than at any other time this year. Average bottom hole pressure in the field is said to have dropped somewhat from the average for January.

Operators in the Midland fields in Michigan see the possibility of a new Dundee sand discovery in Ogemaw Parish in Ogemaw County.

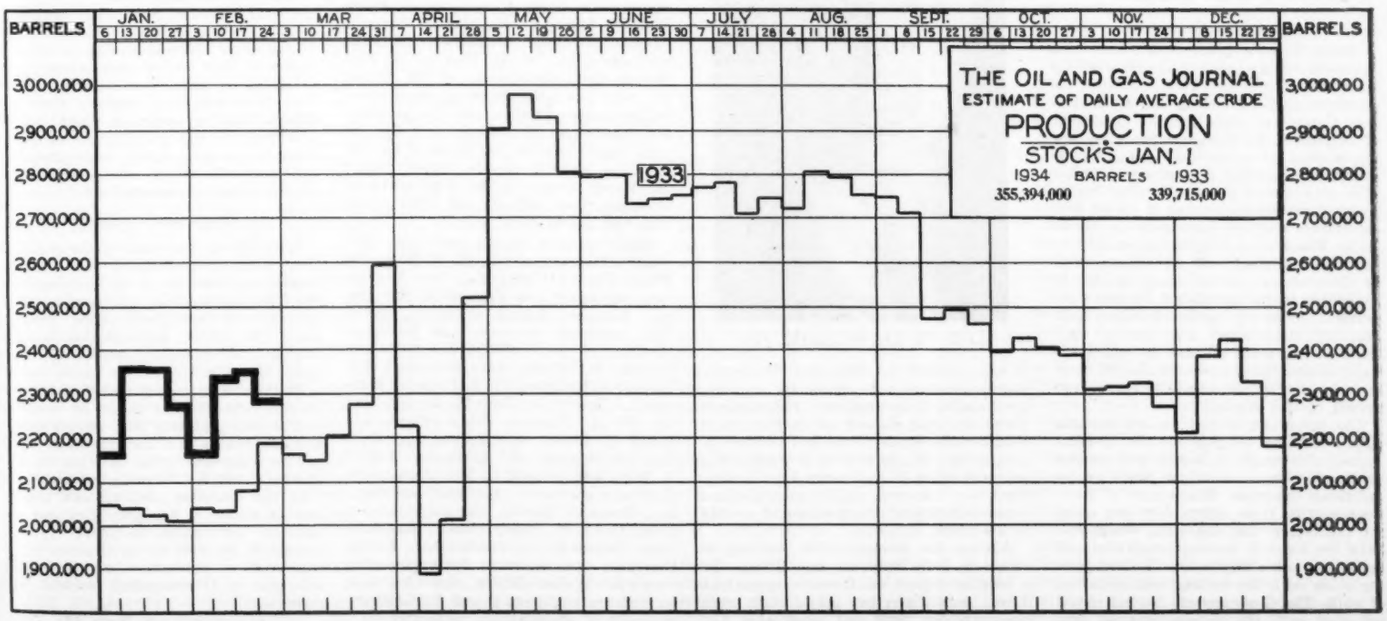
Increased allowable production in California is expected to result in a more effective curtailment in that state. The state averaged 19,000 bbls. a day excess production in January.

Crude Oil Production in the United States

Estimated daily average production for the week ending February 24, and a comparison with previous week and one year ago, follows:

	Feb. 24	Feb. 17	Feb. 25, 1933
Oklahoma—			
Oklahoma City	128,145	174,860	216,635
Seminole-St. Louis	100,830	106,540	110,220
Remainder of State	211,425	213,680	194,885
Total Oklahoma	440,400	495,080	521,740
East Texas—			
Lathrop	201,235	200,395	114,,580
Kilgore	146,265	145,650	93,098
Joiner	130,490	129,945	94,684
Total East Texas	477,990	475,990	302,362
West Texas	123,715	123,512	157,736
North Central Texas	86,710	86,425	72,158
Texas Panhandle	52,285	47,364	47,795
East Central Texas	43,110	47,264	59,441
Gulf Cost—Texas	164,630	158,015	124,453
Southwest Texas	43,105	43,447	54,364
Total State of Texas	991,545	977,999	818,309
Kansas	109,895	115,000	108,645
North Louisiana	28,740	28,245	28,995
Gulf Coast—Louisiana	44,350	45,172	33,139
Arkansas	31,260	31,585	31,950
Eastern Fields	123,000	122,250	106,000
Rocky Mountain area	80,490	79,230	76,444
California—			
Santa Fe Springs	40,200	40,600	51,250
Long Beach	51,500	59,500	68,000
Playa Del Rey	8,600	9,250	12,250
Elwood	15,000	12,000	15,250
Kettleman Hills	50,900	50,600	60,250
Remainder of State	275,800	288,800	261,000
Total California	442,000	460,750	468,000
Total United States	2,291,680	2,355,311	2,193,222

Decrease 63,631 Bbls. Daily.



Government May Use Its War Powers to Control the Operations of the Petroleum Industry

By C. O. WILLSON

NEW YORK, Feb. 24.—The possibility that the Federal Government may deem it expedient to use its war powers to control the operations of the oil industry looms as a result of the recent unfavorable Federal Court opinions as to the legal authority of present regulations. This development became known in connection with the discussions which took place here today at a stabilization conference, a feature of the annual meeting of the petroleum division of the American Institute of Mining and Metallurgical Engineers.

The thought that the President has authority even in peace times to conserve the supplies of a natural resource essential in time of war was brought to the conference by Nathan R. Margold, solicitor of the Interior Department and chairman of the Petroleum Administration Board. Mr. Margold, who since the adoption of the NRA code for the oil industry, has ranked next to Secretary of the Interior Ickes in directing the Government's control of oil operations, made it clear in his comments on the legal phases of stabilization that he was expressing his personal views and not necessarily those of his superiors. His statements, however, caused wide comment among company executives, engineers and petroleum economists who have been in attendance at the three-day meetings of the petroleum division of the A.I.M.M.E. and were interpreted as perhaps indicating the Government's next move to strengthen its position in controlling the oil industry's operations, admittedly weakened by the recent Federal Court decisions in Texas.

Mr. Margold's comments in regard to the use of war powers were made at the stabilization conference after Amos L. Beaty, vice chairman of the Petroleum Planning and Co-ordination Committee, at Washington, had briefly summarized a plan of "Quotas in Commerce" which had been more fully explained at the morning conference. Previously at the afternoon conference Dean Henry M. Bates of the University of Michigan Law School and Dean Roscoe Pound of Harvard Law School had spoken.

Quotas in Commerce

Judge Beaty's plan, which has been approved by the board of directors of the American Petroleum Institute and the members of the Planning and Co-ordination Committee, calls for the enactment of legislation by Congress providing for the control of crude oil production by establishing quotas in commerce. Under this plan crude oil would come under Federal control as soon as it moved into commerce whether interstate or intrastate. The aim of keeping the supply in line with demand will be accomplished by determining the necessary quotas in commerce to be established by the Government under any method it deems feasible. Mr. Beaty cited a number of decisions in his main address in which the right of the Government to control commerce under similar conditions has been upheld by the courts.

The net effect of such an act presumably would be to give the Government control over crude oil supply and prevent overproduction in any one state or by individual operators. The matter of interference with state rights does not enter for the reason that the state would still have the right to control production and make any other regulations desired having to do with the drilling and operation of wells. The Government's control would not start until the crude oil entered into commerce. It was suggested that the same regulation could be applied to the movement of refinery products if the control of crude oil movement did not accomplish all the desired ends.

It is the opinion of Judge Beaty and others that this legislation, if it could be passed immediately, would step into the present breach brought about by decisions in the lower Federal Court of Texas which threaten to nullify much of the improvement secured in recent months through the application of the code to the industry's operations.

Extent of War Power

Asked by Earl Oliver, chairman, to comment on Judge Beaty's plan, Mr. Margold took exception to the conclusion that the Government did not have authority to regulate directly production within the states and pointed to the war-time authority of the president as it applied to the control of a natural resource needed in national defense. This brought an observation from Judge Beaty to the effect that a distinguished legal authority, now a member of the U. S. Supreme Court, had said that this unusual authority vested in the President by the constitution was confined to periods in which the country was actually engaged in war.

Mr. Margold stressed the fact that interpretations of the constitution by the higher courts in recent decisions had recognized changing conditions. In regard to petroleum he pointed out that it was widely used by the army, navy and aviation in times of peace and suggested that the President under his war authority had the power to conserve "this precious, exhaustible resource" as a conservation measure at all times for use in war. He declared that private operation over the years had been highly wasteful and attempts at state regulation had not adequately coped with this conservation problem.

Deans Bates and Pounds, asked to comment on the discussion, were in apparent agreement with the general principles expressed by Mr. Margold. In the main addresses of these two legal authorities at the start of the afternoon session, both had declared that constitutional interpretations should and were being adjusted to conditions brought about by industrial, economic and psychological changes.

Dean Bates traced the evolution of the constitutional decisions from the hard and fast rules of the past to the more liberal interpretations of the present. "It is time that we rid ourselves of our early ideas of delegation of authority," Mr. Bates said, "forgetting fine distinctions and consider broad general principles of government."

In regard to division of authority between the Federal Government and the states he said that due to our complicated industrial and social structure, the latter had fallen down in their efforts to cope with new conditions and enlarged Federal regulation had necessarily followed.

Dean Pounds explained the economic and social developments in this country which has caused people to look to the executive rather than to the legislative branches of government for leadership. This has been accompanied by the centralization of authority. These changes, he explained, have of necessity been also reflected in interpretations of the constitution giving greater authority to the department on which the greatest burden of government rests.

The deans of two of the most widely known law schools in United States had been asked to attend the stabilization conference in order to give those present the benefit of their views in regard to the legal phases of the efforts being made to bring about better conditions in the oil industry. Without passing on the legal angles of any of the plans already promulgated or under consideration at this time, their comments indicated their confidence that any program which had for its objective the stabilization of conditions in the oil industry with protection for the public would not be nullified by constitutional interpretations.

Questions Outlined

Earl Oliver, chairman of the stabilization committee, outlined the questions under consideration at the opening meeting. He explained that the four angles to consider in any stabilization program are: (1) Is it mechanically feasible? (2) Is it economically sound? (3) Is it politically wise? (4) Is it legally sound?

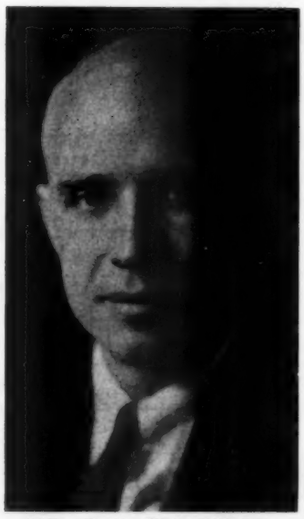
If the writer interpreted correctly the several contributions made by company executives, engineers and economists to this discussion, all the questions asked can be answered in the affirmative. The greater technical knowledge concerned with the discovery, drilling and production of crude oil has simplified any mechanical difficulties incidental to unit operation, the aim of the engineer in future crude oil production being to provide adequate and economical control over operations.

(Continued on Page 42)

Greater Drilling Activities Are Forecast in Papers Read Before A. I. M. E.

NEW YORK, Feb. 26.—Greater drilling activity in many of the domestic and foreign fields during 1934 is in prospect according to representative opinions of engineers expressed in a symposium of petroleum production at the annual meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers. The 48 reports presented by more than 50 engineers covered the entire United States and all the principal foreign producing countries.

While the industry as a whole is still faced with an overproduction of crude oil



DR. H. D. WILDE JR.

it was pointed out that new discoveries would constantly be necessary to keep pace with consumption requirements which in 1933 showed an increase over 1932 for the entire world and is now approximately 90 per cent of the peak. The overproduction it was pointed out is confined to a few areas and in some sections larger supplies of crude oil could readily be absorbed.

Among the foreign fields, drilling is active in both Rumania and Russia. In a lengthy report on Russian operations it was shown that two major pools were discovered in 1933 and production has been increased in some of the older pools by deepening old wells. New discoveries have been made in eastern Venezuela although there has been no attempt to speed up production as present supplies from older pools have been sufficient to take care of demand. Largely the same situation exists in Colombia.

Frank A. Herald of Fort Worth presided as chairman of the domestic production review Wednesday. V. R. Garfias of the Cities Service Co., New York, was chairman of foreign review in the afternoon.

Election of Officers

Howard N. Eavenson of Pittsburgh, Pa., chairman of the Appalachian Coals, Inc., was elected president of the Institute. He succeeds Dr. Frederick M. Becket of New York, Louis C. Cates and Karl Eilers, both of New York, were elected vice presidents.

Dr. H. D. Wilde, Jr., of the research department of the Humble Oil & Refining Co., Houston, was elected chairman of the petroleum division, A.I.M.M.E., succeeding Dr. W. E. Wrather of Fort Worth, Tex. The election of Mr. Wilde, Jr., who has been active in the work of the petroleum division for several years, was announced this evening at the annual dinner. Nathan R. Margold was the principal speaker at the dinner. Henry M. Bates, Dean of the University of Michigan Law School, and other members and guests spoke briefly.

Other officers of the petroleum division for the year are V. H. Wilhelm, the Texas Co. of California, Los Angeles, vice chairman, and Eugene H. Stephenson, Missouri School of Mines, Rolla, Mo., re-elected secretary and treasurer. Members of the executive committee are Dr. H. D. Wilde, Jr., chairman; Dr. Russell S. Knappen, B. E. Parsons, Warren A. Sinsheimer, John R. Suman, and Dr. W. E. Wrather. Other officers are Harry H. Power, vice chairman, production engineering; M. Albertson, Robert R. Boyd and Donald R. Knowlton, associate vice chairmen, production engineering; Frank A. Herald, vice chairman for production; J. Terry Duce, associate vice chairman for production; F. B. Plummer, vice chairman for engineering research; Walter Miller, vice chairman for refinery engineering, and Earl Oliver, chairmen of stabilization committee.

New Method of Limiting Gasoline Production; Federal Allocators May Be Appointed

By ANDREW M. ROWLEY

WASHINGTON, D. C., Feb. 27.—The allocating of gasoline production by Federal appointees in each of the eight refining districts is being discussed with increasing emphasis by the oil administration and those who have been studying the disappointing results obtained under the committee system as it has been practiced since December. The establishing of March refinery operating schedules without regard to gasoline stocks is interpreted as a move not only to promote a better understanding of what is desired but to place the administration in a better position to detect gross violations of the order. The March order provides for a gasoline production totaling 31,791,000 bbls.

California, inland Texas and Appalachian refiners will be permitted to manufacture more gasoline this March than they actually produced in March a year ago while all other refining groups have been assigned smaller production quotas by an order approved by Administrator Ickes on February 24. This order is unique also in that no mention of allowable stocks is made, the entire control of refinery operations being placed in the allocation of manufacturing quotas. It will also be impossible to produce gasoline in the form of unfinished distillates without accounting for it as part of the total gasoline produced.

These two changes in the form of the March order were designed to take care of a practice extending over several months which if allowed to be carried to the extreme could defeat the purposes of refinery control.

The practices grew out of the belief on the part of some that regulations in regard to withdrawing crude from storage would become more stringent as time went on and that by running the crude now and storing the unfinished oil instead of the crude, ample flexibility would be provided to take advantage of favorable market changes.

In some instances the refiner went one step further, he shipped that unfinished oil to other areas for finishing there.

The decision to base all control of operations upon gasoline produced without stating what stocks may be maintained came after it was learned that some refiners were ignoring their production allotment because their stocks happened to be below the per cent permitted based upon previous months shipments and they felt at liberty to build these stocks up to the allowable regardless of the manufacturing quota.

In tightening up on the manner in which gasoline production quotas are allotted some refiners see a change in the manner of enforcing the provisions of these orders. It would not surprise some to see more of the work of allocation placed in the hands of one man in each district, preferably a man appointed by the administrator. He would replace the regional committee with respect to that type of work and would report directly to the oil advisory board. The details of such a plan have not been worked out and it is not known whether it meets general favor but, there is a general recognition of the need for more stringent control of refinery operations and the best method seems to call for centralized and impartial allocating offices.

Gasoline Allocations

Following is the resolution on allocations:

Be it resolved and ordered:

1. That the gasoline production (at refineries including straightrun, cracked and natural gasoline blended) in each of the various refining districts for the month of March, 1934, shall not exceed the following:

District—	Amount (42-gal. bbls.)
1. East Coast	5,778,000
2. Appalachian	1,395,000
3. Indiana-Illinois-Kentucky	4,957,000
4. Oklahoma-Kansas-Missouri	4,251,000
5. Texas:	
(a) Inland Texas	2,248,000
(b) Texas Gulf Coast	5,620,000
6. Louisiana-Arkansas:	
(a) Louisiana Gulf Coast including Alabama	1,205,000
(b) North Louisiana-Arkansas including Mississippi.	646,000
7. Rocky Mountain	629,000
8. California	5,062,000
Total United States	31,791,000

2. And further that in the case of gasoline manufactured in one of said districts which is shipped into and placed in the manufacturer's or affiliated company's storage, or in the storage of an unaffiliated purchasing company, in another district, the refining company which has manufactured said gasoline shall, in determining the reasonable quantity of gasoline produced, be accountable for the gasoline so manufactured and stored;

3. And further that each refining company shall conduct and limit its operations so that production of gasoline will not exceed what is determined by the agencies, and by the procedure as hereinafter provided, to be its fair share of the regional quantities of production set forth in Paragraph 1 above. Each refining company shall within five days after receipt of this order, inform the regional committee or the agency designated by it for this purpose, as to its contemplated production and sales of gasoline during March and its contemplated stocks of gasoline at the end of said month, submitting such other pertinent data as is deemed necessary by the Planning and Co-ordination Committee and/or regional committee and/or agency designated by it, such information to be furnished on forms to be supplied by the Planning and Co-ordination Committee or the respective regional committees or their agencies.

Changes in inventory of both finished gasoline and unfinished gasoline as between March 1 and April 1 shall be calculated in determining March gasoline production as allocated. Definitions of gasoline and unfinished gasoline are as follows:

Gasoline

This item shall include all refinery products (except kerosene) which are to be marketed straight or in blends, without further distillation, as motor fuels or special napthas. This item shall also include all natural gasoline which has been blended, and also all gasoline made from refinery still gases, whether blended or unblended. By further distillation is meant cracking, reforming, or redistillation.

Naptha Distillates

Any partially refined oil more than 50 per cent of which boils below 450 degrees, not including kerosene stocks.

Unfinished Gasoline

Estimated amount of gasoline and/or special napthas boiling under 437 degrees, recoverable from naptha distillates reported above.

Recommendations Invited

4. And further that the several regional committees are directed to determine and recommend formulae to be used for allocations and/or the individual allocations recommended for each refiner in their region, and for that purpose are authorized to designate such regional trade associations or representatives thereof, sub-committees, or other agencies as they may deem necessary. Such recommended formulae and recommended allocations are to be reported to the Refinery Sub-Committee of the Planning and Co-ordination Committee at Washington, D. C. within 10 days from the date of this order. Notice of recommended formulae or allocation shall be given to each refining company by the Regional Committees or its agency. Where suggested allocations of individual refiners have been accepted by the refining company, committees will so indicate in their report.

5. Upon approval of these recommendations by the Planning and Co-ordination Committee and the Petroleum Administrator, the Regional Committee or its agency shall advise each refining company, and production not in accordance therewith as a maximum or not in accordance with any authorized modification shall be in violation of the code. The individual refining company shall have the right of appeal from such allocation first to the Regional Refinery Committee, and then if the appeal is denied, to the Planning and Co-ordination Committee at Washington. The Regional Committee is authorized to modify the original individual allocation where special conditions and justifications are shown, and provided such modification does not result in district production in excess of the quantity allocated to the district reporting such modification to the Refinery Sub-Committee of the Planning and Co-ordination Committee in Washington, D. C. Until and unless such modification is granted, individual refining companies will be required to respect the original allocation.

Standard Contract Forms Covering Sales on Commercial Accounts Approved

Approval of a standard form of contract to govern sales to commercial consumers, and of a resolution by the Planning and Co-ordination Committee annulling such contracts made since August 19, 1933, was announced February 24 by Secretary Ickes.

In approving the resolution of the P. and C. committee annulling consumer contracts made since August 19, Administrator Ickes said he had been advised that these contracts violated Rule 3 of Article 5 of the code, which prohibits deviations from posted prices through rebates, allowances, scrip books or other devices.

As approved by the administrator, on the recommendation of the committee, the new standard form of commercial consumer contract would permit a discount of 1 cent a gallon off tank wagon, or 3 cents a gallon off retail prices, for purchases running between 3,000 and 10,000 gallons a month, and 2 cents a gallon off tank wagon, or 4 cents a gallon off retail prices, for purchases in lots of more than 10,000 gallons a month.

Administrator Ickes approved an interpretation of Rule 3, Article 5, defining a dealer or reseller as one who resells not less than 85 per cent of the gasoline which he purchases. This interpretation was recommended so that commercial consumers could not qualify as dealers and get a larger discount than permitted in the standard form of contract.

The text of the resolutions, interpretation and order follows:

Resolution

The marketing committee "D" recommends the adoption of the following resolution and conditions under Article 5, Rule 3, Paragraph 7:

Whereas, Paragraph 7 of Rule 3, Article 5 of the code of fair competition for the petroleum industry provides that commercial consumers may secure gasoline, motor fuel and other oils on contract quantity basis under conditions established by the Planning and Co-ordination Committee:

Now, therefore, the Planning and Co-ordination Committee does hereby establish the following conditions under which commercial consumers may secure gasoline and/or other motor fuel on contract quantity basis (excluding kerosene, furnace oil, distillate, tractor fuel or Diesel fuel) until further order:

1. Refiners, wholesalers, distributors, and jobbers of petroleum products shall establish a single price for all sales of each brand or grade of gasoline and/or motor fuel involving single deliveries of 100 gallons or more made to consumers either by tank wagon, tank truck or in bulk from bulk storage or terminal plants, which price shall be not lower than 2 cents below the said refiners', wholesalers', distributors' or jobbers' retail service station price for the equivalent product in the locality in which said products are sold, except that the said refiners, wholesalers, distributors and jobbers shall have the right to lower said tank wagon price without regard to the retail service station price, whenever necessary to protect their business against the lower prices of a competitor.

Refiners, wholesalers, distributors and jobbers not selling at retail in a particular locality but whose product is to be sold to consumers in such locality, must establish a tank wagon price for single deliveries of 100 gallons or more for that locality not lower than 2 cents below the service station price for the equivalent product of a refiner, wholesaler, distributor or jobber who does so sell.

If single deliveries of less than 100 gallons are made, the retail service station price for each brand or grade of gasoline and/or motor fuel will apply and no discount will be allowed therefrom. The regional marketing committee for each region under the code may upon a majority affirmative vote of the committee and with the approval of the Planning and Co-ordination Committee and the petroleum administrator, establish a lower minimum than the 100-gallon quantity provided herein.

The state chairman for marketing of the state petroleum committee under the Planning and Co-ordination Committee for the petroleum industry shall immediately appoint a committee of three persons to consist of a representative from

(Continued on Page 46)

Recent Developments South of the Burbank Pool Indicate Important Cable Tool Field in Making

By L. G. E. BIGNELL
Petroleum Engineering Editor

A new field is in the making in the Osage Nation, Oklahoma, which will be drilled with cable tools. The producing formation is the Burbank sand found at about 2,800 feet in this area. The top of this sand was about 100 feet lower in the Burbank Pool and about 100 feet higher in the Little Chief Pool in Section 21-25-6, to the south of the new area. This, and other geological facts, seem to indicate that this sand is a true extension of the Burbank sand and that the whole area was once covered by an arm of a sea with an outlet to the northwest. The fact that the top of the Burbank sand deepens toward the north indicates that this old sea was shallower at its south extension and it is midway between the deep and shallow portions of the sea that this new field has been discovered.

This field is known as South Extension Burbank Pool and has been opened as a result of drilling of four wells each of which found the Burbank sand, although two of them were small oil wells and one a gasser. At the time the Burbank Pool was being drilled the Prairie Oil & Gas Co. drilled a well in the SE NW Section 2-25-6, that had an initial production of about 50 bbls. per day. At that time a 50-bbl. well was not a commercial producer when compared with the usual well in the Burbank Field and this test was shut in and not equipped for production. It did prove the existence of about 7 feet of Burbank sand on the east side of this area.

Little Chief Pool

The Little Chief Pool in Sections 21 and 22-25n-6e, was opened in 1928 and about 23 wells were completed to the Burbank. In the summer of 1933, A. H. Kasishke of Tulsa completed a small Burbank sand well in NE SW Section 15-25-6, north of the Little Chief Pool. In the fall of 1933 the Kay County Oil & Gas Co. completed a small gasser in SW Section 4-24-6, that had a section of Burbank sand. This well was located upon a surface high but it appears that the Burbank sand found was only a remnant of the normal section found in this region.

Another control well in the area was drilled in NE NW Section 8-25-6, known as the Palmer well and reported as having an initial production of 40 bbls. of oil from the Burbank sand.

These four wells with the recent completion by Mead Brothers and Beck, NE SW Section 10-25-6, give good controls over an area that embraces over 30 quarter sections or about 4,800 acres that seem to be underlain by the typical Burbank sand. This formation has many of the characteristics of the producing horizon in the Burbank Field about 18 miles to the north. The tops of the subsurface highs are covered with remnants of the Burbank sand and this is usually tight and productive of little oil and some gas. Down dip to the west the sand contains more oil and the limits of production are defined by the contact with edge water. To the east this sand fingers out into impervious shales.

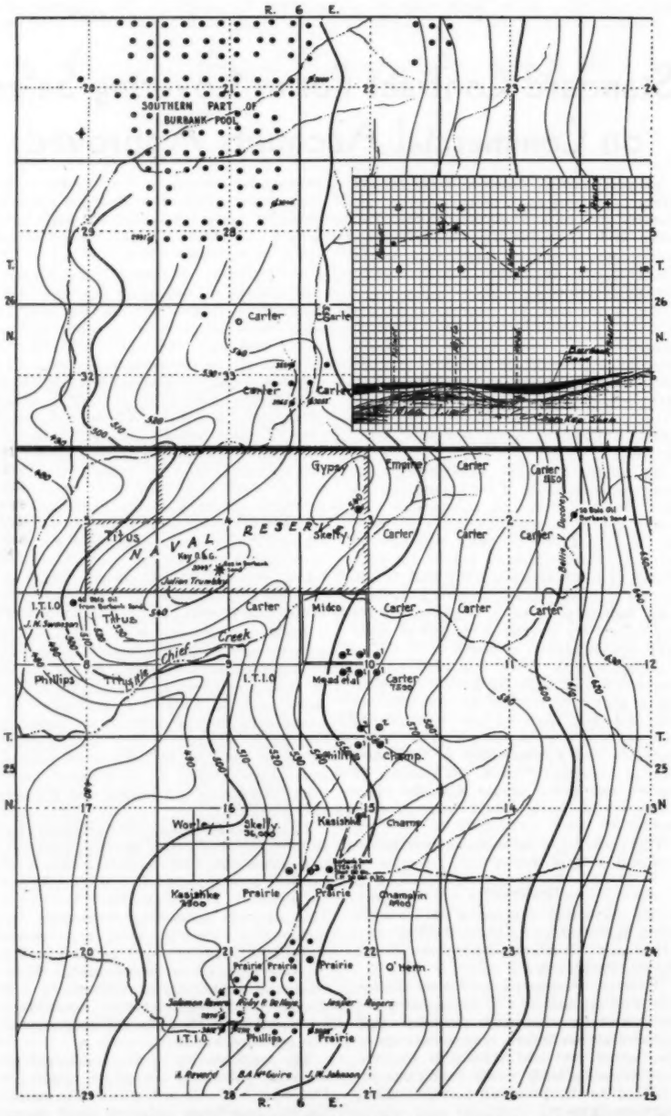
At the last sale of Osage land several pieces of this area brought relatively high prices and were bought by several of the larger oil companies with headquarters in Tulsa. The Gypsy Oil Co. is now completing what appears to be a good well in the SW NW Section 3-25-6, and the second well drilled by Mead Brothers offsetting their oil well in NW SW Section 10-25n-6e, is reported as a big producer.

Midco Oil Corp., Tulsa, is drilling two wells offsetting the Mead Brothers and Beck wells to the north and there are two east offsets to Mead Brothers and Midco Oil Corp. wells drilling to the east on Carter Oil Co. leases, but drilled by others for an interest. In the Mead Brothers' No. 1 well the top of the Burbank sand was found at 2,807 feet with gas to 2,815 feet and from 2,815 to 2,845 feet a good oil sand was drilled and later shot.

There is still a good deal of work to be done in this area to prove the extent and productivity of the Burbank formation but judging from past experience in the Burbank Field proper it seems to be pretty well established that the area has a good section of the Burbank sand and the wells will be good or bad according to structural position as they were in the Burbank Field.

The depth and character of drilling makes the use of cable tools most satisfactory. A 20-inch hole is drilled to about 900 feet and 15½-inch casing set. Strings of 12½, 10, 8¼, 6⅝ and 5 7/16-inch are also set in most of these wells. The 6⅝-inch string is set about the Burbank sand and cemented and the 5 7/16-inch run as a flow string. The outside strings of casing are then pulled.

The character of this oil, with its high lubricating qualities, makes it very desirable and it is being much sought after. The U. S. Bureau of Mines reports the Burbank crude as 12.7 per cent light lubricant distillate and 10.6 per cent medium lubricant distillate or a total lubricating oil of 23.3 per cent by volume. This character of oil is in demand.



Property map of south extension Burbank Pool prepared by C. C. Toomey, Midco Oil Corporation, Tulsa, with insert showing generalized cross section of producing formation as interpreted from log of four wells

One Lease Brings $201,000

The value placed upon the acreage in the vicinity of the Mead Brothers and Beck well in Section 10 was demonstrated when nine quarter sections or 1,440 acres in Township 25n-6e, sold for a total of $547,500, or approximately $380 per acre at sale of Osage leases held at Pawhuska, Okla., February 7. Seventy-three other quarter sections in Osage County brought an average of about $38 per acre and in that group there is one lease that sold for $161,000, or over $1,000 per acre. This high priced tract was bought by Lewis Production Co., Tulsa, and is located in SW Section 16-24-7.

The tract and purchasers of the leases in Township 25n-6e, are as follows:

Description and purchaser—	Price
SW Sec. 3-25-6, Skelly Oil Co.	$92,000.00
SE Sec. 6-25-6, Continental Oil Co.	10,000.00
NE Sec. 15-25-6, Champlin Ref.Co.	106,000.00
NW Sec. 15-25-6, Phillips Pet. Co.	201,000.00
SE Sec. 15-25-6, Champlin Ref. Co.	76,000.00
NE Sec. 35-25-6, Champlin Ref. Co.	17,500.00
NW Sec. 35-25-6, Sinclair Prairie.	13,500.00
SE Sec. 35-25-6, Sinclair Prairie.	16,000.00
SW Sec. 35-25-6, Skelly Oil Co.	15,500.00
Total	$547,500.00

The area will undoubtedly receive a good play this spring and summer and it will be determined whether the four wells used for controls are all in the same Burbank sand area or indicate several small pools such as the one in Section 21 to the south.

A good dirt road has been graded from Fairfax to the Little Chief Pool in Section 21 and then north to the new wells. The road from the north is not the one now used to visit the wells or deliver supplies.

The town of Fairfax is located upon a branch of the Santa Fe Railroad and is south of the town of Burbank. Several supply companies have established warehouses in Fairfax to take care of this new development and others are expected to follow soon. Being a cable tool field rig irons, sand reels, steel derricks, rig fronts and other equipment of like nature will have to be stocked close to the field and the equipment men are anticipating a play much as in the old days when the Burbank Field was drilled, although of course not so extensively.

North Texas Oil Men's Fourth Annual Banquet

The fourth annual banquet of the North Texas Oil and Gas Association will be held at the Wichita Club, Wichita Falls, Tex., 7 p.m., Saturday, March 3.

Among the speakers are Charles F. Roeser, production chairman of the American Petroleum Institute and Texas member of the Planning and Co-ordination Committee; J. G. Collett, general chairman, Regional District No. 4; Charles I. Francis, special assistant to the Attorney General of the United States; J. D. Sandefer, Jr., former president of the West Central Texas Oil and Gas Association, and D. G. Gray, chairman of the regional committee under the marketing code.

Establishment of Quotas to Move in Commerce Is Suggested as Remedy by Judge Beaty

By AMOS L. BEATY
Vice Chairman, Planning and Co-ordination Committee*

At the threshold of any stabilization plan, any plan to control surpluses in the United States, there looms the difficulty resulting from our form of government, in that, production and manufacture are matters of state concern and ordinarily can not be regulated by Federal authority. But for this it would be comparatively easy to find the answer, especially for those industries where the units of production do not run into large numbers. In agriculture it might be difficult and expensive to set up and enforce schedules for all growers of wheat, corn and cotton. But in petroleum it should be less difficult, if not easy. However, each state is jealous of its own position and the rights of its citizens in the production picture, and any effort to obtain state compacts or efficient co-operation is hopeless. States strive for the maximum and citizens invoke the doctrine of state rights.

It is desirable and perhaps necessary, therefore, to work out a solution through central regulation, not of production or manufacture, but of commerce in the product or goods. This is the point and purpose of the address. What has been said about overproduction and its consequences are by way of inducement and foundation.

To some the difference between regulating production and regulating commerce in the thing produced may seem shadowy, but it is not so from a constitutional standpoint. It is not so when we must consider what the Supreme Court has said and repeated many times, namely, production is not commerce. The importance of the point is apparent because no regulation except central regulation can be of a co-ordinated nature. It is Federal regulation or no regulation.

Power of Congress

The power of Congress and its agencies to deal with commerce has its foundation in Section 8 of Article 1 of the Federal Constitution which says that Congress shall have power

"To regulate commerce with foreign nations and among the several states and with the Indian tribes."

Commerce is trade, or trading. An act on the part of a person or group of persons which does not involve this element is not commerce, much less interstate commerce. Mining is not commerce, and neither is the production of petroleum. It follows, of course, that it can not be interstate commerce. See brief of Charles Evans Hughes, now Chief Justice of the United States, filed with the Federal Oil Conservation Board in 1926; also Oliver Iron Mining Co. vs. Lord, 266 U. S. 171 and the Knight Case, 156 U. S. 1.

In the Knight case the question was whether manufacture could be held to constitute commerce and whether under certain conditions it might fall within the definition of interstate commerce. The negative was ruled, and the Knight case has since been followed. A very clear epitome was made by the court in the Utah Power & Light case, 286 U. S. 165, decided two years ago, in these words:

"Commerce does not begin until manufacture is finished, and hence the commerce clause of the Constitution does not prevent the state from exercising exclusive control over the manufacture. Cornell v. Coyne, 192 U. S. 418, 428, 429, 48 L. ed. 504, 508, 509, 24 S. Ct. 383. Commerce succeeds to manufacture, and is not a part of it. United States v. E. C. Knight Co. 156 U. S. 1, 12, 39 L. ed. 325, 329, 15 S. Ct. 249."

It is undeniably true, therefore, that neither the production of oil, which includes the drilling of wells and all other operations in the field, nor manufacture at refineries can be held to constitute commerce of any kind, and, since commerce begins where manufacture ends, we have a very definite starting point for the direct application of congressional legislation under the commerce clause. Whether production can be carried on in such manner as to affect interstate commerce in a way that will subject it to Federal control, is still an open question. It is being debated.

Both Interstate and Intrastate

Probably 90 per cent of the petroleum produced in the United States moves across states lines at some stage or in some form between its production from the earth and the use of its products by the consumer. Much of it goes from the wells into pipe lines and thence to refineries in distant states and foreign countries. A very substantial part is refined within the state of production, and then, through pipe lines, ships and cars, the products are moved to markets elsewhere. These products are frequently and successively reshipped in commerce from place to place across state lines. And it is easy to see that all of this is interstate or foreign commerce. But there is some consumption in the states where manufacture occurs and some in the states where the crude is produced. Likewise, products come to rest and become part of the mass of property in the state of consumption before they are actually consumed. Under these circumstances it is apparent that both interstate and intrastate commerce are involved. This is, in fact, a field in which are intermingled all kinds of commerce. In theory, Congress regulates interstate and foreign commerce, while intrastate commerce is regulated by the states. The case is simple when it involves a small industry which has no interstate or foreign ramifications, and in such case the power of the state is final. But in this industry, where a large part of the business is interstate or foreign, and that portion which is intrastate directly affects the interstate and foreign portions, the question of authority to regulate becomes one which will admit of only one solution, namely, regulation by Congress of the interstate and foreign portions, which carries with it the prevention of anything in intrastate commerce which would tend to thwart such regulation. It is obvious that if Congress should undertake to regulate interstate and foreign commerce in petroleum by limiting the volume in which it may move, its efforts would be frustrated if intrastate commerce in petroleum should remain uncontrolled. This is true in the very nature of things. It is true because all commerce is competitive, and competition within a state would result in state domination, thus defeating the aim of Congress.

Incidental Regulation Upheld

In the Minnesota Rate cases, 230, U. S. 352, and later in the Shreveport case, 234 U. S. 342, questions arose as to the power of the Interstate Commerce Commission to prevent the application of intrastate rates, made under state authority, which would conflict with those approved or promulgated by the commission for interstate traffic, and which would work to the detriment of carriers if they were required to observe them. It was held that the commission had the power, though it meant virtual control of intrastate rates. It is not considered necessary to review the decisions at length, and it will suffice for the purpose of these remarks to quote a summary from Chief Justice Taft, who delivered the opinion of the court in the more recent case of Railroad Commission of Wisconsin v. C.B.&Q. Railroad, 257 U. S. 563. And the latter part of this quotation is particularly apposite. Said the Chief Justice:

"It is objected here, as it was in the Shreveport case, that orders of the commission which raise the intrastate rates to a level of the interstate structure violate the specific proviso of the original Interstate Commerce Act repeated in the amending acts, that the commission is not to regulate traffic wholly within a state. To this the same answer must be made as in the Shreveport case (234 U. S. 342, 358), that such orders as to intrastate traffic are merely incidental to the regulation of interstate commerce and necessary to its efficiency. Effective control of the one must embrace some control over the other in view of the blending of both in actual operation. The same rails and the same cars carry both. The same men conduct them. Commerce is a unit and does not regard state lines, and while, under the Constitution, interstate and intrastate commerce are ordinarily subject to regulation by different sovereignties, yet when they are so mingled together that the supreme authority, the Nation, cannot exercise complete effective control over interstate commerce without incidental regulation of intrastate commerce, such incidental regulation is not an invasion of state authority or a violation of the proviso."

Quotas in Commerce

The way is thus clear, provided we commence at the inception of commerce in oil, that is, its movement into commerce. In truth the path is marked at every step. Of course, the establishment of production quotas for states, pools and properties is a logical method, and the advice of the Federal agency on that subject should be highly persuasive, and this statement applies also to drilling, pool development and additions to storage, but to make the law a thing of flesh and blood may require the establishment of quotas to move in commerce, taking effect where commerce begins. The rate cases are conclusive of the principle that quotas can be made to govern all movements regardless of whether the commerce is interstate or intrastate. In other words, all distinctions in that respect may be brushed aside if this is found necessary to render regulation effective and fair. In abundance of caution it might be desirable to require a finding of fact on this interdependent aspect. Chicago Board of Trade case, 262 U. S. 1. A single sentence in the following language, after specifying the Federal agency, would suffice as the principal section of a statute:

"Upon a finding by the Federal agency that interstate commerce in crude petroleum or the products thereof is injuriously affected by an excessive supply of crude petroleum in the United States, and that commerce in petroleum and the products thereof is such that any remedy, to be effective in respect to interstate commerce, must incidentally apply in like manner to intrastate and foreign commerce, the Federal agency may from time to time establish quotas in commerce for crude petroleum from all or any of the states, pools, properties and storage sources in the United States; and while such quotas are in effect no person shall place in commerce or receive in commerce (foreign, interstate, or intrastate) by sale, exchange, consignment or otherwise, any crude petroleum in excess of quota, or any product derived in whole or in part from crude petroleum so placed in commerce in excess of quota."

Delegation of Power

The objection that this would be a delegation of legislative power is answered by the Supreme Court decisions uphold-

*Before A.I.M.M.E., New York, February 22, 1934.

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude oil at the close of the week ended February 17 totaled 341,157,000 bbls., an increase of 526,000 bbls. over the total of 340,631,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This increase, which follows a decline of 836,000 bbls. during the previous week, comprised an increase in domestic crude oil stocks of 242,000 bbls. and an increase in foreign crude oil stocks of 284,000 bbls.

Current reports of the industry indicate a slight increase in crude production last week as compared with the previous week. Daily average crude runs to stills declined approximately 10,000 bbls. during the week ended February 17 as compared with the previous week. Imports of crude oil increased sharply, amounting to a daily average of 122,000 bbls. as compared with 71,000 bbls. for the previous week.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Grade of crude oil—	Stocks held by reporting companies Feb. 10, 1934 (bbls.)	Stocks held by reporting companies Feb. 17, 1934 (bbls.)	Change from Feb. 10, 1934 (bbls.)
Pennsylvania Grade	5,161,000	5,073,000	— 88,000
Other Appalachian, including Kentucky	1,276,000	1,276,000	0
Lima, Northeast Indiana, Michigan	1,607,000	1,570,000	— 37,000
Illinois, Southwest Indiana	11,332,000	11,353,000	+ 21,000
North Louisiana and Arkansas	11,860,000	11,640,000	—220,000
West Texas and Southeast New Mexico	31,668,000	31,305,000	—363,000
East Texas	43,502,000	43,962,000	+460,000
Other Mid-Continent	153,603,000	153,932,000	+329,000
Gulf Coast	15,826,000	16,206,000	+380,000
Rocky Mountain	27,309,000	27,265,000	— 44,000
California	34,237,000	34,041,000	—196,000
Total domestic crude	337,381,000	337,623,000	+242,000
Foreign crude	3,250,000	3,534,000	+284,000
Total crude	340,631,000	341,157,000	+526,000

ing that portion of the Interstate Commerce Act which, without setting a base or standard, confers upon the commission authority to make "just and reasonable" rates for carriers. But to make assurance doubly sure, and to meet the argument that was made in the Tariff case, 276 U. S. 394, as well as to reassure the industry, a section might be added as follows:

"In the establishment of quotas hereunder, due consideration shall be given to (a) the requirements of trade areas and the customary sources of supply, (b) changes and trends in respect to trade areas and sources of supply, (c) reserves and potential production and the character of wells in the different areas, (d) state laws of conservation or for the regulation or allocation of production and (e) all other factors entering into equitable allocation. Production allowables made in or for any state, for the state as a whole or for particular pools or properties, may be followed entirely or partially in the establishment of quotas hereunder, but quotas hereunder, as distinguished from production allowables, need not necessarily conform to production allowables, the purpose hereof being to prevent the movement in commerce of surpluses which would demoralize commerce, and to equitably distribute the business of supplying the product allowed to move."

Then, conforming to the time-honored principle of notice and hearing, another section might read:

"Before establishing quotas hereunder the Federal agency shall hold hearings in regard to quotas and such other matters as in the opinion of the Federal agency may be proper, after such reasonable public notice as the Federal agency may prescribe: Provided, however, that in any emergency, as determined by the Federal agency, temporary quotas may be established by the Federal agency for a period not exceeding 30 days, without previous notice and hearing, but in such event the Federal agency in the subsequent period shall adjust quotas so as to prevent injustice on the whole."

Isolation of Surpluses

Under this plan, it is true, producers of oil might put it in storage and not move it in commerce. In that way, it is conceivable, stocks might be built up. But, as a practical matter, it is doubtful whether this would occur. The operators who have been the chief cause of demoralization are those who do not own storage but operate from hand to mouth. In any event, the situation would be better than it has been in the past. The inhibition against the movement of quantities over quotas in any kind of commerce would be much stronger than the present authority of the President to restrict the shipment of illegally produced oil across state lines. Isolation and embargo of surpluses would soon bring a halt.

If it is suggested that the major companies own large empty storage and might operate their own wells at capacity and drain their weaker neighbors, the reply is that this is one thing that would not be permitted by any state. It is a matter of state concern, and the power of the state, as well as the will, is adequate. Nearly all of the oil-producing states have long had stringent laws on that subject.

If it is argued that, since overproduction invariably affects commerce, control of production itself rather than control of its flow into commerce is the plain and practical method of protecting that commerce, there are two answers: (1) It is not overproduction per se, but the flow into commerce of the thing overproduced, that plays havoc with commerce, and since that flow can be controlled the remedy should be applied at that point, and (2) we have no proof that an embargo upon surpluses would not be effective as a practical matter, and there is every reason to believe it would work. Moreover, it would have the advantage of perfectly plain constitutionality. In the opinion of your speaker there could not be a reasonable doubt on either score.

It should be said, too, that quotas in commerce would be an honest-to-goodness regulation of commerce, and not something else under the guise of regulating commerce. No more appropriate field for the exercise of the constitutional power could be imagined. If the framers of the Constitution had contemplated the present situation they could not have dealt with it in more fitting phraseology than that which they employed.

Incidentally, a law of the kind proposed would serve the cause of conservation, which would be desirable. That Congress may act under the commerce clause for any reasonable and proper purpose, within its broad discretion, has been uniformly held by the Supreme Court. It need not act with an eye single to the improvement of trade in a commodity affected. The ban on shipments of liquor into prohibition territory and the statute against shipping wild game killed in violation of state laws are both instances of regulations made, not to increase or improve commerce in certain articles, but to decrease and even prevent it for the public good. So here, Congress might actually legislate to injure commerce in petroleum if to do so would conserve the resources of the nation. But fortunately there is no such conflict of motives; the protection of commerce would aid conservation.

Two Alternatives

The plain truth is that we have two alternatives. One is to continue the fight for Federal control of production within the states. In doing this we face a firm and unbroken line of court decisions which, to say the least, are not helpful. They can be answered only by a distinction which the courts have never yet made, and thus far have refused to make, namely, that a different rule obtains when it appears that interstate commerce can not be successfully regulated except by the control of production. The other alternative is to acquiesce in what the courts have said in regard to state control of production and at the same time invoke the rules they have laid down with reference to commerce, in which event we shall have the decisions with us and not against us, not a single one against us, and there will be no occasion to draw distinctions. This statement must not be construed, however, to evince a lack of faith in the appeal from the recent decision of Judge Bryant in the Texas case. The point is that we should quickly plant ourselves upon high and impregnable ground by accepting the second alternative. It is our Gibraltar.

Of vital concern to the petroleum industry at this time is the expiration of codes, including all central control, on June 16, 1935. We must have some permanent and continuing law under which surpluses can be controlled in the future, as occasion may arise. Congress should be urged to act at the present session. In the meantime a provision for quotas in commerce should be incorporated in the petroleum code. The industry, by an overwhelming majority, through unanimous vote of the American Petroleum Institute, has gone on record in favor of such action; the Planning and Co-ordination Committee under the code has endorsed it; the Petroleum Administrative Board and the administrator are understood to be favorable; and it is fair to assume that action will not be delayed much longer. This will meet the Federal court decision in Texas.

Congressional Action

As previously intimated, there may be room for a plausible argument that the provision for "codes of fair competition" in the Recovery Act is not broad enough to warrant a code provision of this kind, which of course would apply with the same or greater force to production control under the code we now have. Such argument, however, could scarcely reach higher rank than mere plausibility, in view of the conditions under which the Recovery Act was passed. But if it were sound it would only emphasize the need a fortiori of immediate congressional action to obviate the objection. Certainly we should have, and there should be obtained now, a permanent law, automatic in its application, one that will apply when and only when the necessity exists, under which quotas in commerce can be established and enforced by Federal authority. Your co-operation is solicited.

And let me say in conclusion, and by way of addendum, that while quotas in commerce for crude oil would doubtless bring substantial and possibly sufficient relief, there is in my opinion no reason why another provision, authorizing quotas in commerce for refineries, as regards motor fuel at least, should not be incorporated in the law. It may not be absolutely necessary, but it would make a double safeguard.

Clyde Alexander Resigns From Phillips Petroleum

Clyde Alexander, vice president and general manager of the board of directors of Phillips Petroleum Co., has resigned, Frank Phillips, president, announced. The resignation has been accepted.

CLYDE H. ALEXANDER

Mr. Alexander said he would devote his time to personal interests, remaining in Bartlesville, Okla.

Ickes Declares Oil Industry Perfect Example of Unchecked and Ruthless Exploitation

CHICAGO, Feb. 26.—Addressing the Chicago and Cook County League of Women Voters at Orchestra Hall Saturday night Secretary of the Interior Harold L. Ickes, oil administrator, said:

"I had my own interesting experiences. It is known to everyone that one of the most ruthless, arrogant and haughty industries in the United States had been the oil industry. It had been a law unto itself. God had put oil into the ground for its especial benefit. It was accountable to Him alone and then only if He never closed his eyes.

"Here was a very giant among the industries, completely manned by rugged individualists. As it happened this industry furnished a perfect example of the results of unchecked and ruthless exploitation. Within the industry all was confusion worse confounded. State conservation laws were being openly flouted. Illegally produced oil was being bootlegged by the hundreds of thousands of barrels with a resulting depressing effect on prices everywhere. One rugged individualist was stealing the oil of a brother rugged individualist. Price wars raged all over the country, this rugged individualist taking away the market from that rugged individualist by selling below cost. New wells were being brought into production although too much crude oil was already being produced. Oil, wastefully taken from the ground, was being stored at great expense in tanks aboveground through fear that some fellow rugged individualist would get away with the oil some dark night. Banks were not only refusing to lend more money to the oil producer, they were actually calling loans. Credit was being contracted everywhere.

"The result of it all was that this industrial behemoth, brought to its knees, came to Washington begging for help. The proposition the oil industry made to the Government was the startling one that the Government, in effect, take over the industry and run it. It was frankly confessed that the situation was beyond control and that only the strong hand of Government could save it. I listened in amazement to the urgent representations of men whose very names had always filled me with awe that they would sponsor a bill before Congress to give the Secretary of the Interior dictatorial powers in the oil industry. Only the Secretary of the Interior knew how little the Secretary of the Interior knew about oil. The mental state of these great industrialists can be judged from the fact of their willingness to entrust the destinies of a great business enterprise to a government official who was without scientific knowledge with respect to oil as a product or special acquaintance with oil as a business. A far cry this from "less government in business."

"Following oil, came men speaking for coal, another of the great business enterprises of America, to tell the Secretary of the Interior how sick their business was and how much they hoped that, with the President's permission, he would exercise sovereign powers over the coal business and join his efforts with theirs to keep it from final dissolution.

"I recite these two instances because they came within my own personal observation but they were not isolated cases. It is fair to say that in the early days of the present administration there was a general disposition throughout the business world to beg the Government to come to the rescue of the business even to the extent of exercising dictatorial powers."

In an address broadcast at the seventieth annual midwinter meeting of the Chicago Dental Society tonight, Secretary Ickes said:

"In the story of oil is unfolded the record of the most reckless and extravagant exploitation of a natural resource in the history of the world. Here is a tale of wasteful methods of capture; of cutthroat competition; of hundreds of thousands of barrels of oil going up in smoke; of billions of feet of natural gas escaping into the air; of the unlawful draining by one man of a pool that is the common property of many; of persistent production in excess of the market demand with resulting waste and loss; of the bringing in of new wells when there is already more than enough oil above ground and in sight in existing wells to meet consumptive demands."

Good luck to the purchasing pool—but

Complete success can come only by cracking into anti-knock gasoline the noisy straight-run it buys

And Dubbscracking is the best way

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

SELL YOUR EQUIPMENT IN THE WORLD'S MOST ACTIVE AREA

THE GULF COAST AND TEXAS

EXHIBIT YOUR PRODUCTS IN THE CENTER OF THIS AREA

HOUSTON

TEXAS

From the "Summary of Operations in All Fields" as Published by The Oil and Gas Journal

Summary of Completed Wells in All the Fields of the United States in 1933

		Comp.
Eastern	1933	1,650
Central Ohio	1933	378
Lima	1933	123
Indiana	1933	170
Kentucky-Tennessee	1933	186
Michigan	1933	296
Mississippi	1933	42
Alabama	1933	3
Illinois	1933	14
Kansas	1933	539
Oklahoma	1933	1,093
Texas—all fields	**1933**	**6,559**
Gulf Coast—La.	**1933**	**225**
North Louisiana	1933	343
Arkansas	1933	48
Montana	1933	75
Wyoming	1933	62
Colorado	1933	30
New Mexico	1933	61
Utah	1933	4
California	1933	411
Total	1933	12,312

(Reprinted from The Oil and Gas Journal, Jan. 25, 1934, p. 37)

APRIL 16-21 1934

FIFTH ANNUAL

OIL EQUIPMENT & ENGINEERING EXPOSITION

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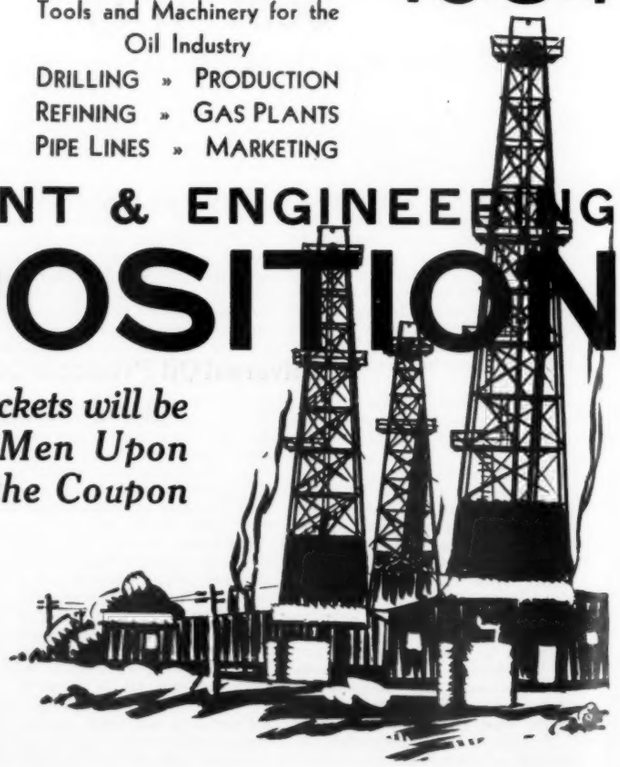

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New Code Regulations and Conservation Statute Now Being Drafted by Federal Administration

By NATHAN R. MARGOLD

Solicitor of the Interior Department and chairman of the Petroleum Administrative Board*

Production in the flush fields, where wells flow freely as a result of natural gas or water pressure, is cheap. Production in the stripper areas, where pumping is necessary to lift the oil to the surface, is costly. To shut down the latter during the comparatively temporary periods of enormous potential production is and has been impossible without prodigious waste of our petroleum reserves. Many stripper wells cannot be shut down without being ruined forever. Even if they could be, however, the flush fields could for a short time, far oversupply current consumptive requirements; and such overproduction leads to many forms of gross physical and economic waste. Reckless waste of reservoir energy, evaporation and other physical losses resulting from proper or improper storage aboveground, mounting capital investment and costs of such storage, and failure to make the most valuable use of crude petroleum encouraged by a cheap and overabundant supply, are some of the many forms of waste known to you all.

Overproduction, and the shocking wastes that have accompanied it, originally may have been conceived in ignorance of the essential principles of economics and geology which they transgress. But nurtured by a lust for quick and easy riches and by the compelling force of the rule of capture, itself born in ignorance but living on with all the tenacity of a common law rule of property, they developed into fullgrown sirens luring flush producers on in the mad race to dissipate our oil resources.

Appalling Waste

As a result, there has been an appalling annual waste of fuel and reservoir energy through reckless release of natural gas into the atmosphere. Millions of barrels of crude petroleum have been wasted through dissipation of natural energy in the premature competitive development of oil pools and through the failure of the industry to abandon wasteful refining methods and practices. There has been waste in the premature exhaustion of such flush fields as were discovered in the Mexia-Powell and Cushing areas. There have been irretrievable losses through the burning of crude oil, through the inefficient skimming of crude oil by refineries with a low recovery yield, and through the burning of residuals containing considerable gasoline and other valuable products.

This prodigious waste repeatedly led to the rapid depletion of known oil deposits in this country. Periods of scarcity, during which the consumer and the state paid the piper for the mad dance of prior overproduction, thus far have been interrupted by discoveries of new flush fields leading to new periods of increased waste and overproduction; and it was in the midst of such a period that the Federal Government was asked to assume some measure of control last summer, when the code of fair competition for the petroleum industry was presented for presidential approval under the National Industrial Recovery Act.

The provisions, in this code, for production control did not constitute the first attempt toward that end or toward the adoption of conservation measures to govern the petroleum industry. Despite the opposition of many greedy owners in flush fields, others, more public-spirited and far-sighted both in and out of the industry, have been waging a hard but increasingly victorious fight to compel the adoption of state conservation laws. These laws have survived the hazards of constitutional attack and have succeeded in curtailing to a limited extent some of the more shocking forms of waste.

Development of Control

Initially, the conservation statutes sought to prevent the physical waste caused by leaving wells uncased and unplugged, thereby allowing gas, oil and salt water to escape into the air or to flood oil producing structures. Such statutes served a real purpose; but they marked a mere beginning toward conservation. They embodied merely an application of the long established legal doctrine that a man may not injure his neighbor's property through the negligent use of his own property.

The next step was taken by statutes seeking, directly but in minor ways, to limit wasteful uses of gas and oil. Typical statutes are those prohibiting the burning of gas as flambeau lights, the manufacture of carbon black through gas combustion, and the improper use of vacuum pumps. Here, too, the departure from securely intrenched rules of property law was not great, nor was the effect on the conservation of natural resources substantial.

The next step was provided by statutes which fix a ratio between the amount of gas and the amount of oil that may be lifted to the surface out of a well, seeking thereby to conserve reservoir energy and to curtail production. Such statutes have been upheld in the highest courts of the land; but due partly to their lack of sufficient flexibility in the determination of the proper ratio, and partly to the inherent inability of such measures to curtail production when curtailment is desperately needed, they mark only a slight advance toward real conservation.

The most recent and effective statutes have been predicated upon the need of equitable proration, among producers of a state, of the total market demand for the petroleum produced in that state. Such statutes declare that the production of more oil than can be currently consumed constitutes wastes. They are directly addressed to a real need in times of excessive productive capacity; but they have been enacted only in Kansas, Oklahoma and Texas, leaving a least 15 oil producing states, including California, in which limitation on production must depend upon the relatively ineffective provisions of the earlier types of statutes.

Furthermore, even in Texas, Oklahoma and Kansas, the proration statutes are woefully inadequate so far as scientific development of oil pools is concerned. Petroleum deposits unfortunately do not conform underground to the man-made boundaries aboveground. The law of capture, giving a surface owner an absolute right to all the oil he can produce from a well situated within the surface boundaries of his land, regardless of the source or effect of the subsurface drainage, has tended to force owners into a race for rapid rather than scientific production and to defeat any attempt to develop the subsurface pool as a whole in accordance with sound engineering principles. No state statute has yet attempted to compel strictly scientific development. The law of oil and gas, however, has developed with such comparative rapidity as to engender the hope that its growth will continue and soon reach the point where legal rules will no longer be at loggerheads with engineering principles.

Pitifully Inadequate

This brief recital sufficiently indicates how pitifully inadequate our present state conservation statutes are, and how great the need for a single, uniform and thoroughgoing statute embracing the whole nation. Practically, the states cannot reasonably be expected to reach such a goal. Theoretically, however, the several state legislatures are in a position to correct, if they wish, many of the defects in present day oil conservation legislation. Each new restriction on the freedom of property owners to abuse their rights in reckless disregard of the rights of neighboring property owners, of the community at large, and of posterity, undoubtedly would have to face a fresh attack on constitutional grounds. But I, for one, am confident that even the most thoroughgoing legislation would successfully meet such a challenge, if the restrictions which it imposed appropriately supplied the need for conservation of our petroleum resources. In one vital respect, moreover, the several state legislatures are in no position even theoretically to achieve the required end. No state, acting independently, can undertake to curtail production with any real assurance of fair treatment not merely to its own citizens but also to those in other states. While the physical act of producing oil from a well is a purely local or intrastate matter, the marketing of that oil is an essentially national or interstate matter. This, I believe, is true not merely with respect to the oil which actually moves across one or more state borders before it reaches its consumptive market, but also with respect to the oil which is produced, processed and consumed all within the confines of a single state; for if past experience in the petroleum industry has demonstrated anything at all, it has demonstrated the extreme sensitiveness of the interstate petroleum market to local influence and the great facility with which market disturbances either spread or leap across state borders. Experience also has demonstrated the hopelessness of attempting to achieve an equitable division of the national market by voluntary concerted action on the part of the individual producing states. The disinterested action of the Federal Government is required to make a just allocation of the national market among the several states and its strong arm is necessary to enforce that allocation against those who covet more than their fair share in disregard of the rights of other states.

This need was recognized last spring, and urged as a basis for Federal intervention, by all except a small but ruthless and vociferous minority in the industry. This need was sought to be met by the provisions of Article 3 of the code of fair competition approved by the President last August, and substantially was being met until February 12 of this year, when the decisions in the Amazon and Panama cases were handed down in Texas.

Industry to Blame

In its proration of production, the sphere of our most successful and beneficial activity, we have far from approached perfection. Due to the inadequacy of the machinery provided under the code for controlling refinery runs, we have not succeeded in keeping refined stocks at a level sufficiently low to maintain the proper parity between the increased price of crude petroleum and the price of refined gasoline. The result has worked real hardship on independent refiners who have had to purchase their crude supply at an increased price but who were unable to dispose of their refined products at a proportionately increased price. For this distressing result, I regret to say, the industry, rather than the petroleum administration, has been responsible. Under the code, the Federal agency is empowered merely to divide the country into eight refining districts and to suggest a proper relationship between inventories of gasoline and sales thereof for each district. To the committee and subcommittees representing the industry, has been left the task of apportioning appropriate runs among the refiners and of endeavoring to obtain their co-operation and compliance. This method of control has not been successful. Some new and more effective method of controlling refinery runs is urgently required, and the refining division of the Petroleum Administrative Board is now intensively applying itself to the task of devising one.

Aside from this indirect but serious shortcoming, the production control program under the code has been eminently successful and salutory. Some slight excess production has been inevitable. Due to the difficulty of obtaining effective judicial support in East Texas of our efforts to enforce the code, the tide of illegally produced oil in the East Texas oil field was gradually rising during the pendency of the Amazon and Panama cases. Whether this tide will assume alarming proportions before we can test the validity of those decisions in the higher courts, whether it will soon become a raging flood that will sweep away the structure of interstate proration

(Continued on Page 41)

New Plans of the Petroleum Administration

"Under the direction of Administrator Ickes the Petroleum Administrative Board is now drafting new and, we believe, even more effective regulations under the National Recovery Act and the petroleum code for the purpose of protecting the producing states against any disastrous effects from an overflow of the wells in Texas.

"The board is also drafting a new Federal oil conservation statute, designed at once to obviate the objections that have been made against the present statute and code and to achieve conservation of this country's petroleum resources, more completely, more directly and more surely than is possible under the present set-up."

*At the annual dinner of the Petroleum Division of the A.I.M.E., New York, February 22, 1934.

NEWS FROM FOREIGN LANDS

ITALY

By D. A. GREIG

Fornovo Taro, Italy*

There was a decline in the Italian oil production in 1933 and also in the footage drilled. A total of about 194,500 bbls. of crude oil was produced in the Emilia district of northern Italy from the same fields in production as in 1932. New drilling to the extent of 80,700 feet failed to find new production to compensate for the decline in old wells, and no new fields were discovered in spite of an active exploration campaign by the government-owned company A.G.I.P., which has just completed the second year of a five-year exploration program. This company drilled a total of about 33,000 feet. The majority of its tests were drilled in the Po Valley upon locations selected by geophysical methods. This company is changing over to the rotary system for all future wells. It produced about 16,600 bbls. of oil from wells near Salsomaggiore and in the Po Valley.

The Petroli d'Italia, which operates the old fields of Montechino, Valleia and Gratera south of Piacenza, has been doing normal development drilling in the endeavor to extend its present fields. Also it was drilling two exploration wells in the Torino district. It drilled a total of about 13,930 feet and produced approximately 12,645 bbls. of very high-grade oil (specific gravity about 0.765).

The Societa Petrolifera Italiana was occupied chiefly in exploratory drilling in the endeavor to extend its producing fields at Salsomaggiore and at Vallezza, south of Parma. It was also drilling one exploration well at Rile dell'Olio near Voghera on the line Milan-Genoa. It drilled a total of 33,849 feet and obtained a production from its two fields of 165,273 bbls. It also produced 123,220 gallons of casinghead gasoline from Vallezza field absorption plant.

*Before A.I.M.E., New York, February 1934.

MEXICO

According to information received by the Association of Producers of Petroleum in Mexico the following are the values and production taxes for February (calculated in silver at exchange of 3.60):

	Per cubic meter Pesos	Barrel
Fuel oil	27.17	$1.20
Gasoline (gallon)	98.43	.1035
Kerosene (gallon)	52.02	.0547

The following production taxes were effective on February production (tax in U. S. currency. Figured on per barrel in case of crude oil and fuel oil; other products per gallon):

	Tax
Crude (20.38 Be. gravity)	.13867
Crude (15.68 Be. gravity or heavier)	.08422
Fuel oil (17.21 gravity)	.12957
Gasoline (crude)	.00414
Gasoline (refined)	.00207
Kerosene (crude)	.00328
Kerosene (refined)	.00164

The production tax on fuel oil will vary approximately .01062 per barrel for each degree of specific gravity above (deduct) or below (add) 0.95 specific gravity. The production tax on light crude oil will vary approximately .01137 per barrel for each degree of specific gravity above (deduct) or below (add) 0.93 specific gravity.

The association gives the following explanation regarding export tax payments: "As export taxes are payable in silver at par to make calculations in U. S. currency take figures given below multiply them by two and divide by rate of exchange at time of payment."

Crude oil—	U. S. Currency $1.00 for 2 pesos
Sp. gr. 0.93 or 20.38 Be.	$0.07949
Sp. gr. 0.96 or 15.68 Be. or heavier	.04928
Fuel oil (sp. gr. 0.95 or 17.21 Be...	.05962
Gasoline (crude), per gal.	.00472
Gasoline (refined), per gal.	.00189
Kerosene (crude), per gal.	.00151
Kerosene (refined), per gal.	.00057

ARGENTINA

The Argentine government, which controls part of the crude oil production in that country and operates a large refinery, is preparing to carry on geological investigations and wildcat drilling in new territories. Officials have recently pointed out that no new fields of importance have been discovered in several years, and it will shortly be impossible to increase or maintain production from the present known pools.

The Argentine production in 1933 totaled 12,768,343 bbls., an increase of 4.3 per cent over 1932. The production in 1932 increased 12 per cent over the previous year, and, in 1931, 30 per cent. The Pacimientos Petroliferos Fiscales, which is owned by the government and is engaged in all branches of the oil industry in Argentina, has spent $10,000,000 in the past three years in its production department.. The company controls over 200,000,000 acres, and its production at present is 43 per cent of the total. The present production in Argentina is obtained from scattered pools extending from the Bolivian border to the Patagonian seacoast.

CHILE

In the new bill foreign firms will be permitted to participate with the understanding that concessions per company will be limited to a maximum area of 120,000 hectares (approximately 300,000 acres). Under the new act if it is approved foreigners will not be allowed to own more than 40 per cent of the stock in the private companies. Upon the discovery of oil in any section the land in the vicinity including the concession itself will be divided into lots of equal size which will be distributed by lot between the government and the company.

TRINIDAD

Unless new fields are discovered Trinidad cannot be expected to maintain its present production, according to Col. H. C. B. Hickling, general manager of the Apex (Trinidad) Oilfields, Ltd., who, in an annual report to the stockholders, predicted a slow decline in output. Colonel Hickling pointed to the steady increase in the company's production which jumped from 294,000 tons in 1928 to 539,000 tons in 1933. The 1933 production was obtained from 156 wells. The average price received for the crude was only slightly in excess of the 1932 average.

The crude oil is delivered to the Trinidad Leaseholds, Ltd., which operates refineries and distributes the products. Several items contained in the annual report of the Apex company are of interest as they reflect general conditions in Trinidad. Some of the operating features explained in the report are as follows:

"The casinghead gasoline plant is a great success and profitable investment —steady increase in production of 5,000 imperial gallons daily average in October, 1932, to 6,500 Imperial gallons in September, 1933. Total production for 1933 amounts to 2,039,549 Imperial gallons of which 2,020,652 gallons were delivered under our contract with United British Oilfields of Trinidad, Ltd. Twenty-one new wells were completed during the year including three new wells drilled into deeper sands. Drilling program was directed towards meeting requirements of Trinidad Leaseholds for deliveries of crude oil.

"Trinidad is the largest producer of oil in the British empire. In 1932, 10,126,000 bbls. were produced, 17.75 per cent in excess of its nearest rival within the British empire, viz., British India. Of that amount Apex company which is the largest producer of oil in Trinidad, produced 3,927,000 bbls., being over 38 per cent of total production.

"Marketing is progressing in this country (England) and we have secured important contracts with a passenger transportation organization in consequence of which distributing facilities have been established over a wide area including the Midlands and West of England.

"In conjunction with other Trinidad oil companies we seek to obtain Imperial government recognition of our claim for preferential treatment. So far we have met with no success, but the policy of our government to respect British as against foreign commodities makes us expect such assistance."

Compressor units and part of absorption equipment of the Tropical Oil Co.'s natural gasoline plant located at El Centro, Colombia, S. A. A large power plant is shown in the background

AUSTRIA

By WALTER M. SMALL

Vienna, Austria*

From the one producing well in Austria, 7,000 bbls. of heavy oil was produced and sold in 1933. This well, owned by the Raky-Danubia, was completed late in 1932 in the formation called Flysch (upper Cretaceous or lower Eocene) near Zistersdorf north of Vienna. Two wildcats drilling in the vicinity have not yet reached the producing beds.

Near Vienna, the European Gas & Electric Co. drilled five shallow wells for gas, three of which were failures. One gas well was completed for 8,000,000 feet at 260 meters depth and with a pressure of 570 pounds. Another is being tested following blowouts. One gas well and one dry hole were completed in the pool in 1932.

In Upper Austria, the same company abandoned one wildcat at 679 meters and is drilling at 280 meters on a second.

No gas was sold during the year, but a line is being completed to supply fuel to boilers of the Vienna Electric Works.

Hungary

No deep drilling was done in 1933. Oil and gas concession was granted by Parliament to the European Gas & Electric Co. on Transdanubia. Active geological and geophysical investigation is in progress.

Czechoslovakia

In the Gbley and Hodonin shallow fields, some 26 wells were drilled of which three were reported as failures. The total production of the fields was 111,736 bbls. of oil and 40,000,000 feet of gas used as fuel in the field.

At Vacenovice, where there were already two small gas wells, a third producer was completed at 420 meters. This pool markets a small amount of gas, which is compressed and used to light railway carriages.

Wildcat wells were reported drilling at about 300 meters depth at both Jasina and Telnice. One 700-meter wildcat near the Hodonin Field was abandoned. Another failure was reported completed and abandoned at 820 meters near Holic.

*Before A.I.M.E. New York, February, 1934.

RUMANIA

Drilling operations in Rumania are showing a substantial increase, according to a report of M. Grigorescu to the Foreign Production Symposium at the annual meeting of the American Institute of Mining and Metallurgical Engineers, held February 19 to 22 in New York. His report showed that for the year ending January 1, 1934, a total of 825,925 feet were drilled, an increase of 22.38 per cent when compared with the previous year. Due to this increased activity, there were 1,570 producing wells at the close of 1933, which compares with 1,469 wells at the close of 1932.

In December the following wells, by fields, were drilling: Aricesti, 10; Arbanasi, 1; Baicoi, 1; Boldesti, 5; Chichiura, 2; Gura Ocnitsei, 26; Moreni, 2; Ochiuri, 2; Orlea, 1; Piscuri, 8; Runcu, 8, and other areas, 8.

REFINING COSTS CAN BE REDUCED

***A study of the figures presented below will show refiners that operating costs can be reduced by using* REFINERY GAS *as fuel for* TRANSIT Gas Engines**

Fuel Costs and Unit Costs of Various Types of Pumping Units Compared

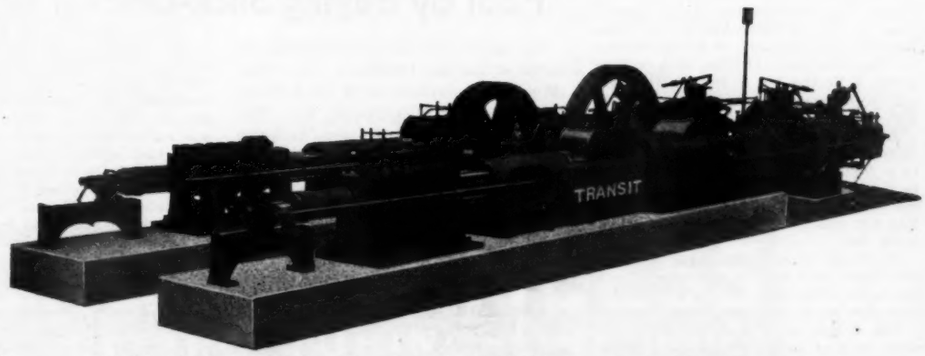
Hot Oil Pumping Unit: Capacity (allowing 5% slippage and 5% vaporization losses) 334 Gallons Per Minute; Differential Pressure 1170 lbs.

VARIOUS TYPES OF PUMPING UNITS	DIRECT ACTING		FLYWHEEL		ELECTRIC	FLYWHEEL	TRANSIT GAS
	DUPLEX SIMPLE Non-Condensing	DUPLEX COMPOUND Non-Condensing	TWIN ENGINE Non-Condensing	CROSS COMPOUND Non-Condensing	MOTOR DRIVEN Power Pump	CROSS COMPOUND Condensing	ENGINE DRIVEN Power Pump
SIZE PUMPING UNIT	36x8¾x24	30 & 46x8¾x24	22 & 22x5x24	28 & 42x5x24	5x24	24 & 52x5x24	17x24 bg 5x24
Pump Speed	60 f.p.m.	60 f.p.m.	45½ r.p.m	45½ r.p.m.	45½ r.p.m.	45½ r.p.m.	45½ r.p.m.
Steam Pressure	100 Lb. Gauge	100 Lb. Gauge	100 Lb. Gauge	100 Lb. Gauge	----------	100 Lb. Gauge	----------
Exhaust Pressure	Atmosphere	Atmosphere	Atmosphere	Atmosphere	----------	26" Vacuum	----------
Efficiency, Pump	----------	----------	----------	----------	85% Pump	----------	85% net on the
Efficiency, Motor	----------	----------	----------	----------	90% Motor	----------	combined unit
Gas B.T.U. per Cu. Ft.	----------	----------	----------	----------	----------	----------	1500 B.T.U.
Gas B.T.U. per H.P. Hr.	----------	----------	----------	----------	----------	----------	11500 B.T.U.
HORSE POWER	228 Hydraulic	228 Hydraulic	228 Hydraulic	228 Hydraulic	299 H.P. Motor	228 Hydraulic	269 H.P. Engine
Power per H.P. Hour	76 Lb. Steam	53 Lb. Steam	40 Lb. Steam	33 Lb. Steam	.746 K.W.	19 Lb. Steam	7.67 Cubic Feet
Power per Hour	17328 Lb. Steam	12084 Lb. Steam	9120 Lb. Steam	7524 Lb. Steam	223 K.W.	4332 Lb. Steam	2064 Cubic Feet
Boiler H.P. required	578 Boiler HP	403 Boiler HP	304 Boiler HP	251 Boiler HP	----------	145 Boiler HP	----------
Cost of Power	27c per 1000 Lb.	27c per 1000 Lb.	27c per 1000 Lb.	27c per 1000 Lb	⅞c per K.W.	27c per 1000 Lb.	15c per 1000 Cu. Ft.
Cost per Hour	$ 4.679	$ 3.263	$ 2.462	$ 2.031	$ 1.951	$ 1.169	$ .310
Cost per 24 Hours	$ 112.30	$ 78.31	$ 59.09	$ 48.74	$ 46.82	$ 28.06	$ 7.44
Cost for 314 Days	$35262.20	$24589.34	$18554.26	$15304.36	$14701.48	$ 8810.84	$ 2336.16
SAVING IN OPERATING COST PER YEAR (314 Days):							
Compared to: Duplex Simple	----------	$10672.86	$16707.94	$19957.84	$20560.72	$26451.36	$32926.04
Duplex Compound	----------	----------	$ 6035.08	$ 9284.98	$ 9887.86	$15778.50	$22253.18
Flywheel Twin	----------	----------	----------	$ 3249.90	$ 3852.78	$ 9743.42	$16218.10
Cross Compound Non.	----------	----------	----------	----------	$ 602.88	$ 6493.52	$12968.20
Electric Driven	----------	----------	----------	----------	----------	$ 5890.64	$12365.32
Cross Compound Con.	----------	----------	----------	----------	----------	----------	$ 6474.68
FIRST COST (approximate)	$12500.00	$17300.00	$16000.00	$17400.00	$15900.00	$18400.00	$28000.00
ADDITIONAL INVESTMENT:							
Compared to: Duplex Simple	----------	$ 4800.00	$ 3500.00	$ 4900.00	$ 3400.00	$ 5900.00	$15500.00
Duplex Compound	----------	----------	----------	$ 100.00	----------	$ 1100.00	$10700.00
Flywheel Twin	----------	----------	----------	$ 1400.00	----------	$ 2400.00	$12000.00
Cross Compound Non.	----------	----------	----------	----------	----------	$ 1000.00	$10600.00
Electric Driven	----------	----------	----------	----------	----------	$ 2500.00	$12100.00
Cross Compound Con.	----------	----------	----------	----------	----------	----------	$ 9600.00

TRANSIT Gas engines in the refinery are being used chiefly for compressors and driving charging and hot oil pumps in connection with cracking plants. We also recommend them for driving generating units.

By adopting this means of generating your own power with the aid of a waste product—refinery gas—you are assured of lowest cost operation throughout the entire refinery.

While economy is a much desired feature, dependability must be considered also. The gas engine driven hot oil pump shown at the right has been in operation two years, at the Pennzoil refinery, without a shutdown due to engine or pump failure. So great is Pennzoil's faith in this unit no reserve units have been considered necessary and none ordered.



17x24" Twin Tandem, Single Acting, Four Cycle, 300 H.P. Gas Engine, Direct Connected and Back Geared to a 4 5/16x24" Horizontal Duplex Outside End Packed Hot Oil Pump.

NATIONAL TRANSIT PUMP AND MACHINE CO.

OIL CITY, PENNSYLVANIA

NEW YORK . CHICAGO . CLEVELAND . PITTSBURGH . LOS ANGELES . HOUSTON . TULSA

Meeting of Governors of National Petroleum Agency Called March 2

WASHINGTON, D. C., Feb. 27.—A meeting of governors representing companies signing the National Petroleum Agency agreement has been called for March 2 at 2 p. m. in the Mayflower hotel here by C. B. Ames, chairman of the Board of Governors named by companies signing the agreement.

At this meeting it is expected offices will be designated, probably in Washington, Tulsa, Chicago and New York and it is felt officers of the agency will be selected and that Howard Bennette will be made manager of the agency.

The agency will buy and hold surplus gasoline to maintain a proper price differential between Group 3 tank car prices for 60-64 octane gasoline and 36 gravity crude oil, that differential being on the ratio of 18.5.

Late Fields

OKLAHOMA

Manahan Drilling Co.'s No. 1, C SW NE SE Section 18-2-7, Pontotoc County, swabbed 180 bbls. in eight hours. The rotary rig was being taken down to rig up pumping outfit.

Carter Oil Co.'s No. 1, C NE SW Section 20-20-2w, had Wilcox sand at 5,020-70 feet and second Wilcox at 5,120 feet with biggest production at 5,195-5,205 feet. The well flowed 220 bbls. per hour for three hours.

Slick-Urschel's No. 2, C SW NW NW Section 17-14-4, Chandler Pool, was shot with 50 quarts in Wilcox sand at 5,029-51 feet and flowed 325 bbls. in 19 hours. No. 3, C NE NW NW Section 17, found Wilcox sand at 5,011-19 feet and flowed 1,048 bbls. in 14 hours.

Springrose Drilling Co.'s test in Section 19-11-1, Oklahoma County, stood with 5,000 feet of oil in the hole and it was reported that a little water had shown up. The company will make a test of this before deciding whether or not to acidize.

In the South Burbank Field in Osage County, Mead Brothers & Beck's No. 1, C NE NE SW Section 10-25-6, made 1,442 bbls. in the latest reported 24-hour test, and No. 2 made 1,810 bbls. and 1,715 bbls., respectively, on the latest two days' flow reported. No. 1 had been shot. No. 2 flows naturally.

Mid-Continent Petroleum Corp.'s No. 1, C SE NE NE Section 19-19-2, Payne County, will be abandoned. It had nothing but water at a total depth of 4,732½-33 feet, Wilcox sand.

14,000,000-Foot Gas Well in Potter County

COUDERSPORT, Pa., Feb. 24.—Penn United Gas Co.'s well on U. B. Russell farm in Hebron Township, Potter County, came in Thursday, a 14,000,000-foot per day producer. Drilling was resumed today with the bit 8 feet in the sand and an increase in the volume is expected. The well is now down 5,289 feet.

James Duff and others' test on land owned by Potter County turned out to be a failure. Until the drill was 17 feet in the lime, when it ran into salt water, the well was look to be a good producer. The bit struck the water at a depth of 5,404 feet.

Unofficial reports concerning the secretive Reed well on the Champlain farm are to the effect that there is a 4,000,000-foot showing at a depth of 5,265 feet.

The Schutt well is down 5,000 feet with drilling being continued and the Hanley & Bird test on the Gooch farm is reported at 4,875 feet. Emporium Lumber Co.'s project is now at 6,077 feet. The First National Bank on the Emporium Lumber Co.'s lease has a fishing job, a pocket of gas at 4,570 feet, lifting the tools and snapping the cable.

North Branch Development Co. is rigging up on the George Doty farm at Sunderlinville on the Sabinsville anticline.

Daily Allowable Production Increased 99,800 Barrels Effective March 1

BY ANDREW M. ROWLEY

WASHINGTON, D. C., Feb. 26.—An increase of 99,800 bbls. in the daily allowable oil production throughout the United States, to become effective March 1, has been announced by Secretary Ickes, oil administrator. The total daily production was increased from 2,183,000 bbls. to 2,282,800 bbls.

Texas, which contains the huge East Texas Field and several other flush production areas, was given the largest share of the increase, 63,900 bbls. raising the state's allowable from 884,000 bbls. to 947,900 bbls.

Administrator Ickes, in announcing the increases, explained that carefully prepared estimates by the Department of the Interior indicated the usual spring increase in consumptive demand for petroleum products would make advisable an increase in production of crude during March.

The order of Administrator Ickes providing the increases modifies an order he issued on December 20, setting the allowables for January, February and March. The increases by states follow:

Texas, 63,900 bbls.; Kentucky, 100; Pennsylvania, 400; West Virginia, 200; California, 16,300; Kansas, 2,300; Louisiana, 2,500; Michigan, 300; New Mexico, 3,100; New York, 300; Oklahoma, 9,800; Colorado, 200; Montana, 600; Wyoming, 600. Arkansas was reduced 800 bbls. from 33,000 to 32,200.

The text of Administrator Ickes' order follows:

Pursuant to the provisions of Sections 3 and 4 of Article 3 of the code of fair competition for the petroleum industry, approved by the President, August 19, 1933, under the provisions of Title 1 of the National Industrial Recovery Act approved June 16, 1933, and pursuant to the President's order of August 28, 1933, under the aforesaid act and code, the estimate of the required daily production of crude oil to balance consumer demand for petroleum products during the month of March, 1934, has been found by the Department of the Interior to be 2,282,800 bbls., and the Department of the Interior, after a careful, scientific and impartial investigation, collection and evaluation of all available, pertinent data, has found as a fact that the daily net reasonable market demand for crude petroleum from the several petroleum-producing states during the month of March, 1934, will be as follows:

State—	Daily av. (bbls.)
Appalachian and eastern states:	
Illinois	12,000
Indiana	2,000
New York	9,300
Kentucky	12,100
Ohio	12,000
Pennsylvania	36,600
West Virginia	11,200
Arkansas	32,200
California	453,900
Kansas	112,300
Louisiana	71,800
Michigan	29,300
New Mexico	44,300
Oklahoma	456,400
Texas	947,900
Rocky Mountain States:	
Colorado	2,500
Montana	7,400
Wyoming	29,600
Total	2,282,800

The foregoing amounts are hereby recommended to the above enumerated states and allocated as the operating schedules for said states during said period, effective as of 7 a.m., March 1, 1934.

This order modifies but does not supplant the order of the administrator of date December 20, 1933, in which the national consumer demand for the months of January, February and March, 1934, was estimated and the daily net reasonable market demand for crude petroleum from the several petroleum-producing states during those months was determined and allocated. An increase in the estimated demand for petroleum products during the month of March, 1934, has made necessary an increase in the estimated required daily production of crude oil to balance the consumer demand for petroleum products for the month of March, 1934, as contained in the order of the administrator of December 20, 1933. All of the provisions of the administrator's order of December 20, 1933, and all of the rights and duties arising therefrom remain in full force and effect except in so far as this modification of that order changes the estimated national consumer demand for the month of March, 1934, and the estimated net reasonable market demand for crude petroleum from the several petroleum-producing states during the month of March, 1934.

Carter Oil Co. Enters the Oklahoma City Pool by Buying Slick-Urschel Interests

The Carter Oil Co. is now solidly entrenched in the Oklahoma City Field through the purchase of all the holdings in that field of Slick-Urschel, Inc. The deal includes about 1,100 acres of leases and 128 producing wells, of which 112 were wholly owned by Slick-Urschel, Inc., and 16 wells with some outsiders having an interest.

The properties produce about 26,000 bbls. per day under the present production allowables in Oklahoma City, but they have a very large potential production. Of the 26,000 bbls., the Carter owns 20,000 bbls. net, the balance being owned by royalty interests and outside working interests.

It is not the intention of the Carter Oil Co. to make any change in the present pipe line arrangements. While the Oklahoma Pipe Line Co., a sister company to the Carter, is one of the largest shippers of oil out of Oklahoma City, the Stanolind Pipe Line Co. has been running the oil from the Slick-Urschel properties and will continue to do so under the new ownership.

Just what was paid for the property is not known. Neither company will give out the terms of the sale, but Arthur Seeligson, vice president of Slick-Urschel, Inc., is quoted as saying that the sale was subject to an overriding royalty and for a cash consideration.

The Slick-Urschel company still owns many valuable leases in other fields of the State and in Kansas and other states, and does not appear to be considering a departure from the oil business.

Sixty-nine of the wells in the Oklahoma City deal are in the Wilcox sand, the remainder in Simpson or Simpson dolomite.

Jim Hewgley, production superintendent for Slick-Urschel, Inc., will remain in charge of the properties, but will retain his position with the Slick-Urschel company.

Now that the Carter Oil Co. is an Oklahoma City producer, only two major companies are out of that field, Gypsy Oil Co. and the Texas Co. Neither of these companies has even a pipe line into the field, which was opened by the Indian Territory Illuminating Oil Co. and Foster Oil Co.

Death of Victor Ross, Vice President, Imperial

TORONTO, Ontario, Feb. 24.—Victor Ross, aged 56, vice president of Imperial Oil, Ltd., and International Petroleum

VICTOR ROSS

Co., Ltd., died from pneumonia February 23 after a brief illness.

Mr. Ross was for many years engaged in journalism in Toronto. In 1918 he accepted appointment as assistant to W. C. Teagle, president of Standard Oil Co. (New Jersey), with whom he was associated in formulation of industrial relations plans. In 1919 he was made a director of Imperial Oil, Ltd., and later was appointed to the board of International Petroleum Co., Ltd. He became vice president of these companies in 1922.

He was the author of two books on petroleum, entitled "Petroleum in Canada" and "The Evolution of the Oil Industry." He was widely known in Canada and the United States.

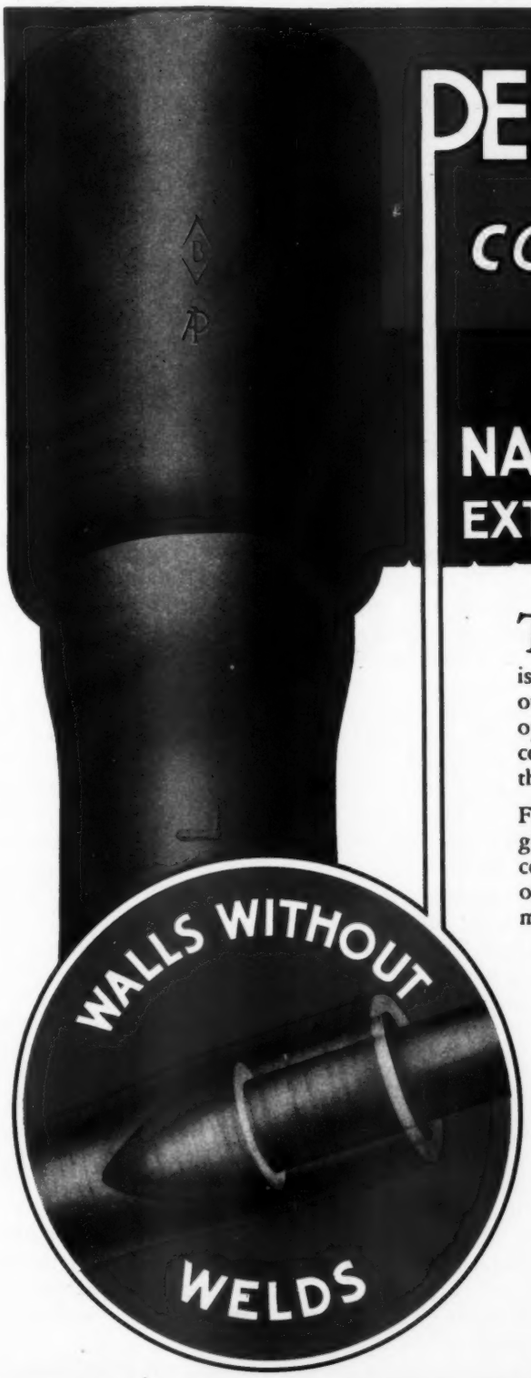
March Allowables in Okla. Prorated Pools

The permitted production of the prorated fields of Oklahoma in the month of March will be as follows:

Class A (Oklahoma City)—	
Wilcox sand zone	120,889
Simpson below Wilcox	46,835
Fault Line	468
Total	168,192
Class B—	
Seminole et al	66,418
Maud	1,253
St. Louis	18,260
Asher-Wanette	1,648
Konawa	2,094
Sasakwa townsite	1,207
Sasakwa	893
Allen	8,291
East Earlsboro Calvin sand	1,600
Tatums	7,344
Fish	2,510
Total	111,518
Class C—	
Lucien	5,340
Keokuk Falls	669
Fish Pool Simpson sands	325
Total	6,340
Class D—	
County Line	550
Crescent	500
Lucien Hunton lime	50
Orlando	150
Total	1,250
Total prorated pools	287,300
Unprorated pools	169,100
Total Oklahoma	456,400

JERSEY EMPLOYES STOCK

Employes of Standard Oil of New Jersey have been offered common stock at $43 a share under the company's stock purchase plan. The price will apply to subscriptions during the first half of the current year. During the second half of 1933 stock was offered to employes at $34 a share, compared with $30 during the first half. The market price is around $47.



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Federal Refinery Control?

Unless the refining branch of the industry can get its house in order within the next thirty days its hopes for a profitable gasoline season may again be disappointed.

Excessive crude runs during January and February are already weakening the market and it will take drastic steps to check the trend.

The methods that have been applied to avoid overproduction of gasoline have not been successful. The figures show that.

Chairman Margold of the Petroleum Administrative Board says that "due to the inadequacy of the machinery under the code for controlling refinery runs we have not succeeded in keeping refined stocks at a level sufficiently low to maintain a parity between crude and refined prices."

"For this distressing result," he adds, "the industry rather than the petroleum administration has been responsible."

Under the code the Federal administration merely divided the country into eight refining districts and suggested a proper relationship between gasoline production, inventories and sales in each district. The actual working out of the curtailment was left to the industry itself, the committees and sub-committees authorized to establish an operating schedule for each refinery in each district.

Under this system allocators were chosen in each district to set schedules but the arrangement was so loose and the interpretations so varying between stocks and production that the results were scarcely comparable.

Clashing interests and lack of authoritative co-ordination produced the distressing result which threatens the market in the main consuming season.

The situation has forced itself on the attention of the Federal oil administration and Chairman Margold says "some new and more effective method of controlling refinery runs is urgently required and the refining division of the Petroleum Administrative Board is now intently applying itself to the task of devising one."

It is not difficult to guess what it will devise. The industry has had its chance to curtail gasoline production and failed. Unless it can pull itself together and show results the Federal oil administration will take over the allocation of motor fuel production in all of its phases.

The first step towards this can be seen in the new order of the administrator which eliminates stocks in computing production allocations. Hereafter there will be no excuse for jockeying stocks and production or juggling unfinished oils. It will be a matter of plain limitation on production.

If the refining industry can demonstrate its willingness to limit production under the new order, well and good, but if it does not, it should look out for Federal allocators responsible only to the administrator taking over the whole business of allocating refinery runs.

That, at least, seems in the air and is about what could be expected from this administration.

Notwithstanding the progressive steps that have been taken in governmental control it seems impossible to convince some of the oil industry that the Federal oil administration is not to be fooled with. Schemes that seem smart but do not show results are eventually exposed and blocked. They hasten rather than postpone greater governmental control.

Gasoline production is going to be curtailed to consumer demand. It is only a question of whether the industry will do it or make the government do it.

War Powers Suggested

The suggestion at the A. I. M. E. meeting in New York that the government might resort to its war powers to enforce its oil conservation program is significant.

This suggestion would not arise if the Supreme Court were to uphold the administration in the East Texas cases. Taken with the remark that "Congress is in session" it indicates a resolution to be ready to proceed to the goal in another direction if blocked in one.

There may be a right way and a wrong way of attaining an identical end, a constitutional and an unconstitutional approach.

Judge Beaty's suggestion that difficulty over attempting to control intrastate production of crude might be overcome by a law establishing "quotas in commerce" is an illustration of one possible method.

Isolation and embargo on surpluses Judge Beaty believes would soon bring a halt. His proposal would, he says, be "an honest to goodness regulation of commerce and not something else under the guise of regulating commerce." There has been too much indirection heretofore in many phases of the curtailment movement when more direct methods would have been preferable and probably much more effective.

The Petroleum Administrative Board it is announced is now drafting new and it is believed more effective regulations under the NRA and the petroleum code for the purpose of protecting the producing states against any disastrous effects from an overflow of the wells in East Texas.

The Board is also drafting a new Federal oil conservation statute "designed at once to obviate the objections that have been made against the present statute and code and to achieve conservation more completely, more directly, and more surely than is possible under the present set-up."

Congress has shown its readiness to enact whatever legislation the administration needs to put through its policies, as witness the tax on crude in the new revenue bill designed to give the Federal government power to compel reports from producers and refiners.

The fight for stabilization of the oil industry is not going to be lost in any one battle. The administration and the industry have enlisted for the war.

The "small, though ruthless and vociferous, minority" may delude themselves with hopes of obstruction but at most it can be only temporary in the face of the facts and forces against them.

Having come thus far on the road to recovery the oil industry is most positively not going back.

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Downward Drift of Refinery Gasoline in Group 3 Halted, But Naturals Continue Their Decline

By T. F. SMILEY

The distinguishing difference between the market performance of refinery gasolines and that of the naturals in the Oklahoma (Group 3) territory during the last week seemed to lie in the fact that the former caught on something in their headlong dive and stuck, at least temporarily, while the naturals kept on going, quotations running one-eighth to one-quarter cent below those of the week before.

Refinery gasoline prices, which started tumbling shortly after the Federal District Court announced its decision in the Amazon Petroleum Corp. and Panhandle Refining Co. cases on Februry 12, churned about in aimless, bewildered fashion until the middle of last week, working to lower levels all the time. They had their worst day on Wednesday, when middle octane material was quoted at 3¼ cents. Some was reported to have been bought at 3 cents for resale.

Many marketers stepped in Thursday and began buying, on the theory that the panicky selling was producing prices which they were unlikely to see again in the near future. Some of these bargain hunters are reported to have acquired low octane gasoline at 2⅞ cents. The speculative purchases were of sufficient volume to halt the downward movement of prices.

Not all the buyers were moved by the same course of reasoning. Some are said to have based their action on the belief that the pooling and marketing agreements would be in operation soon; others on a feeling that the Texas Railroad Commission would adopt more aggressive methods in dealing with hot oil operators in East Texas. But whatever the reasons, they helped to swing prices upward again.

The market was energized further by the announcement on Thursday that the Standard Oil Co. (Indiana) would advance service station prices 1 cent throughout its territory on February 23, at the same time reducing tank wagon prices 1 cent. By Friday afternoon the market had become fairly stabilized at the same level of quotations that had ruled early in the week.

Along with the other stimulating influences was a large volume of buying in the East Texas area for coastwise or export shipment. About 300 cars of 400 and 375 endpoint gasoline were purchased Thursday and Friday and shipped to the Gulf.

Market students were unwilling to venture forecasts early this week as to the direction which gasoline prices were likely to take in the next few weeks. It was agreed that favorable news from Washington concerning measures vitally affecting the business of refining and distributing oil products would impart new and emphatic strength. Quick arrival of pleasant motoring weather would be a tonic. If the Texas Railroad Commission would act firmly to stop code violations in East Texas, refiners, jobbers and marketers would begin with one accord to hold their material for better prices. But these and other factors were in the realm of conjecture, and as the trade had just emerged from something like a panic there was little use in making guesses. One thing was sure. The season of heavy consumption was not far off and it should be looked forward to with confidence to yield a reasonable volume of profitable business.

Refined Oil Market Barometer

The trade generally is waiting for definite action in Washington on measures which vitally concern the market in petroleum products and for final adjudication of the Federal Court cases from Texas involving the validity of the oil code. Unsteadiness in the gasoline market resulting from the adverse opinion handed down by the District Court was less pronounced this week. While the cold wave slackened gasoline buying, it spurred business in heating oils.

Mid-Continent—Refinery gasolines unsteady, naturals down. Rest of the list firm.

East Coast—Kerosene, overhead distillates and gas oils strong. Gasoline slow.

Gulf Coast—Gasolines steadying following period of weakness. Lubricants feeling fair movement with prices steady.

Pennsylvania—Intense cold has favored kerosenes and distillates. Surplus of straightrun gasoline has caused low octane material to drop a quarter cent.

California—Domestic gasoline slightly weaker. Export prices unchanged.

Chicago—Gasoline stronger and moving more briskly following price adjustment. Heating oils uneven. Naphthas lower.

Naturals Continue Decline

The natural gasolines, which in the recent past have been paralleling pretty closely the movements of the refinery product, saw nothing roseate in the pathway just ahead. Like their neighbor, they went into a decline. But unlike their neighbor, they stayed in it and in the early part of this week observers were disposed to believe that the end of the decline had not been reached. At the best, it was said that a stationary or irregular market might be looked for, with a return of strength likely to appear early in April.

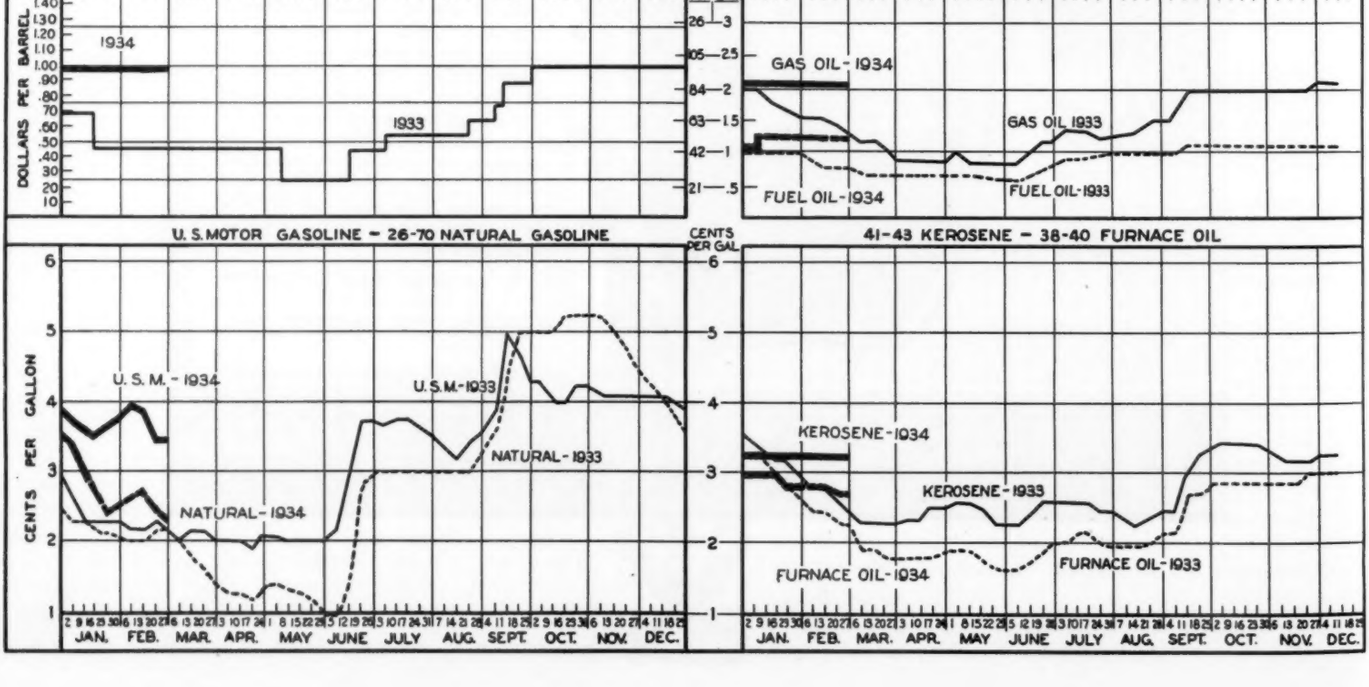
In sympathy with the active buying of refinery gasoline last Thursday and Friday, the naturals showed some signs of revival, but they were unable to carry through and soon resumed their downward drift.

One of the abnormalities that crop out from time to time in price ranges appears this week in the natural gasoline quotations. The only one that held its ground was that for the 11-pound material, which was selling at 3¾ to 4 cents, the same as last week. Under ordinary conditions if its price preserved its normal relation to the 26-70 material, which serves as a base, it would be quoted at 3½ to 3⅝ cents. Unusual demand caused it to ignore the formula this week.

There was no material change in the kerosene market, which showed a steady undertone. Neutrals were fairly steady, with some of the higher grades reported as somewhat scarce. Bright stocks and cylinder stocks were strong. Wax was firm.

(Continued on Page 32)

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Strength in Kerosene Is Eastern Market Feature; Gasoline Market Seems to Be Marking Time

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Feb. 26.—Strength in kerosene and all grades of overhead distillates and gas oils featured the East Coast refinery market over the past week. In most cases sellers advanced their tank car prices at least one-fourth cent per gallon on these products and a few faced with an actual shortage for immediate shipment advanced their quotations to the point where they were practically out of the spot market.

The advance in these products follows a period of over a month in which there has been an exceptionally strong demand for all products used as burning oils and special fuels. The extremely cold weather of the past month in New England, New York and adjoining states brought an unexpected heavy demand. Heavy snows last week slowed up both tank car and tank wagon deliveries of the kerosene and furnace oil distillates at scattered points and many distributing systems of large and small companies were working 24 hours a day to take care of the demand. In the jobber end it was stated that, starting in early February, many were allowing their storage to be depleted in the assumption that the main consuming season was nearing a close. With the cold weather and large consumer demand many of these jobbers and even the bulk stations of the major companies were caught short.

The Standard Oil Co. of New York on Friday advanced kerosene tank wagon prices one-half cent per gallon in New York and the New England states. There have been complaints for several weeks that kerosene tank wagon prices in this territory, ranging from 8 to 9 cents per gallon, were too low in relation to the tank car market and so the advance of one-half cent per gallon will be welcomed. The tank car prices quoted on kerosene at New York harbor district ranged from 5½ to 5¾ cents per gallon with New England coastal quotations generally one-fourth cent higher.

The No. 1 grade of furnace oil was generally bringing as much as kerosene with several sales reported at 5¾ cents tank car basis at New York harbor and Bayonne, N. J., refineries. Sales of range oil as high as 6 cents per gallon were reported. Range oil is the product used as fuel for ranges and small stoves in homes and small buildings. A large demand for this product has been built up in the New England states during the past few years and this year there has been a substantial consumption in New York, New Jersey and other states. Specifications of this product vary but as sold by most of the refiners its specifications are the equivalent of kerosene with the exception of color, which is usually prime white. In few cases at least the product has lower endpoint than ordinary kerosene to assure satisfactory operation in the vapor type burners. Thus refiners are justified on a basis of costs in charging at least a kerosene price.

The No. 2 grade of furnace oils has advanced to a tank car price range of 4¾ to 5 cents, No. 3 to 4½ to 4¾ cents, and the No. 1 grade, which is an industrial overhead product, to 4¼ to 4½ cents. The demand for the latter grade, which is commonly used as fuel for apartment buildings, hotels and similar buildings, has been exceptionally heavy.

Gas Oil

Due in part to the strong demand for the lighter gravity fuels, the gas oil market in this territory is also strong. This product, while not suitable as furnace oil fuels, can be used in blending the heavier industrial grades. This blending demand, coupled with a good movement to the artificial gas plants, advanced prices the first of the week to 4¼ cents for tank car and small barge movements. In some cases refiners who have been selling a Diesel fuel at 4½ cents to domestic buyers have advanced their prices to 4¾ cents, a development which also reflects the increased demand for furnace oil distillates.

The marine Diesel continues to be quoted at $1.95 per barrel, and the bunker fuels at $1.20 in New York harbor. The marine demand for fuels has not been active since the first of the year. However, the supplies of all residual fuels in this territory are limited, and some observers are predicting higher prices, assuming that in the near future crude oil production will be curtailed to the point where some of the supplies of fuel oil will be cut off at the Gulf Coast.

In this connection, crude oil at the Gulf Coast for East Coast and export movement, which is traded quite actively in this market at times, has been strong during the past week. Quotations are around $1.27 per barrel at the Gulf Coast terminal for East Texas crude oil. There have been a number of inquiries in the market from French refinery buyers.

Little Change in Gasoline

The gasoline market appears to be marking time with a slow domestic movement. Weather conditions throughout this territory have been exceptionally unfavorable, and reports from representative companies indicate that the actual consumption has been at the lowest point in several years. This situation has tended to emphasize the necessity of curtailing gasoline production to take care of slow domestic movement. There is the additional fact that January and February crude oil runs to stills and gasoline production at refineries in this territory were substantially in excess of the quotas.

Despite this unfavorable situation in regard to inventories and current production of gasoline in relation to demand, tank car prices are holding and complaints of price cutting in the tank wagon and service station divisions have not increased. The low octane material which was a factor in this market the latter part of last year appears to have been eliminated. This material generally rated under 60 octane was being sold one-fourth or more cents per gallon under the so-called regular grade and one-half cent under the grades having a minimum octane of 65. Now this grade is quoted at a low of 5¾ cents, the same as the low for the 60-64.9 octane material. It is explained in this connection that the tanker gasoline coming from the Gulf Coast now has an octane rating in excess of 60. If this situation continues, this low octane material will cease to be a factor in this market. The going market in New York harbor area the first of the week was 5¾ to 6 cents for middle octane material and 6 to 6¼ cents for 65 and above.

In New England there has been a spurt in gasoline prices and the latter part of last week the tank car prices at coastal points were generally at least one-half cent per gallon above the New York harbor quotations. Ordinarily the differential between the two points does not exceed one-fourth cent per gallon for the same grade material.

Wax

The trend in wax prices is upward, especially for fully refined grades. Prices for domestic shipment last week ranged from 4.6 cents per pound in bags for the 120-122 melting point grade to 6.05 cents per pound for the 135-137 grade. Export prices were .05 cent per pound less as quoted by a majority of the sellers.

Prices on steam refined and bright stocks are somewhat mixed, but the low cold test grades of bright stocks and neutral oils are exceptionally strong and when any price changes were announced during the past week the changes were upward both for domestic and export movement. Some grades of Pennsylvania stocks were said to be practically unobtainable in this market for immediate shipment last week.

American Petroleum Institute Weekly Refinery Statistics

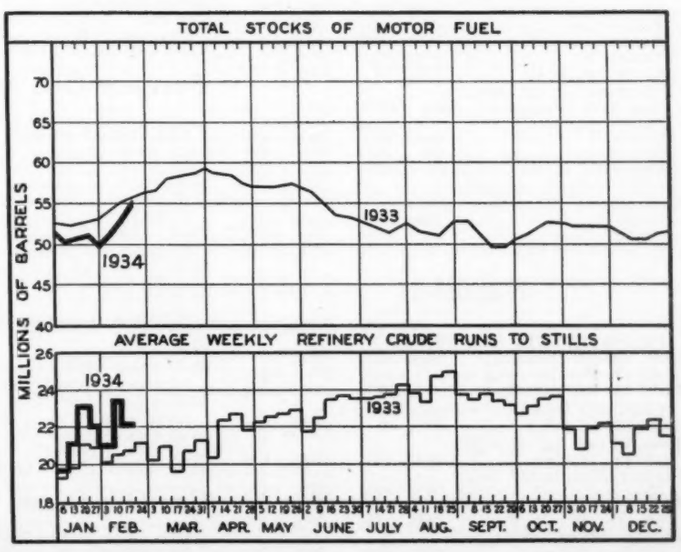
Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

Week Ending February 24, 1934, Compared to Week Ago

	Week Ending Feb. 24, 1934				Week Ending Feb. 17, 1934			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	453,000	16,057,000	4,763,000	100.0	449,000	15,806,000	4,788,000
Appalachian	92.6	86,000	1,941,000	769,000	92.6	83,000	1,893,000	874,000
Ind., Ill., Ky.	97.3	344,000	8,382,000	3,621,000	97.3	313,000	8,077,000	3,733,000
Okla., Kans., Mo.	82.1	217,000	5,909,000	3,104,000	82.1	238,000	5,869,000	3,116,000
Inland Texas	60.2	93,000	1,335,000	1,655,000	60.2	88,000	1,274,000	1,699,000
Texas Gulf	98.1	487,000	5,421,000	4,871,000	98.1	443,000	5,081,000	5,115,000
La. Gulf	100.0	113,000	1,854,000	1,338,000	100.0	112,000	1,751,000	1,448,000
N. La. and Ark.	92.6	49,000	310,000	638,000	92.6	56,000	293,000	621,000
Rocky Mtn.	78.8	25,000	1,070,000	736,000	78.8	30,000	1,061,000	749,000
California	96.9	420,000	13,697,000	87,417,000	96.9	412,000	13,944,000	87,918,000
Total U. S.	92 4	2,287,000	55,976,000	108,912,000	92.4	2,224,000	55,049,000	110,061,000

Week Ending February 24, 1934, Compared to Year Ago

	Week Ending Feb. 24, 1934				Week ending February 25, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	453,000	16,057,000	4,763,000	99.1	453,000	14,689,000	6,879,000
Appalachian	92.6	86,000	1,941,000	769,000	95.0	78,000	1,979,000	917,000
Ind., Ill., Ky.	97.3	344,000	8,382,000	3,621,000	97.5	316,000	8,137,000	3,264,000
Okla., Kans., Mo.	82.1	217,000	5,909,000	3,104,000	84.9	203,000	5,043,000	2,851,000
Inland Texas	60.2	93,000	1,335,000	1,655,000	56.4	93,000	1,620,000	2,130,000
Texas Gulf	98.1	487,000	5,421,000	4,871,000	97.7	407,000	6,269,000	6,331,000
La. Gulf	100.0	113,000	1,854,000	1,338,000	97.3	106,000	1,607,000	2,166,000
N. La. and Ark.	92.6	49,000	310,000	638,000	88 5	50,000	323,000	648,000
Rocky Mtn.	78.8	25,000	1,070,000	736,000	90.8	30,000	1,460,000	580,000
California	96.9	420,000	13,697,000	87,417,000	94.6	384,000	15,103,000	98,999,000
Total U. S.	92 4	2,287,000	55,976,000	108,912,000	91.6	2,120,000	56,230,000	124,765,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
U. S. Motor grades:				
Below 60 octane	.03½	.03⅝	.03½	.03⅝
60-64.9 octane	.04⅜	.04½	.04⅜	.04½
65-70 octane	.04⅝	.04⅞	.04⅝	.04⅞
60-62 400 grades:				
Below 60 octane	.03⅝	.03¾	.03⅝	.03¾
60-64.9 octane	.04⅝	.04⅞	.04⅝	.04⅞
65-70 octane	.04¾	.05	.04¾	.05
64-66 375	.04⅛	.04⅜	.04⅛	.04⅜
68-70 360	.04¾	.05	.04¾	.05
NORTH TEXAS—				
U. S. Motor grades:				
Below 60 octane	.03½	.03⅝	.03½	.03⅝
60-64.9 octane	.04⅜	.04½	.04⅜	.04½
65-70 octane	.04⅝	.04⅞	.04⅝	.04⅞
60-62 400	.03⅝	.03¾	.03⅝	.03¾
64-66 375	.04⅛	.04⅜	.04⅛	.04⅜
68-70 360	.04¾	.05	.04¾	.05
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛		.04⅛	
60-64.9 octane	.05⅛		.05⅛	
65-70 octane	.05⅜		.05⅜	
60-62 400	.04⅛		.04⅛	
ARKANSAS (Ark., No. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛		.04⅛	
60-64.9 octane	.05⅛		.05⅛	
65-70 octane	.05⅜		.05⅜	
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 60 octane	.03⅝	.03⅞	.03½	.03¾
60-64.9 octane	.04½	.04¾	.04⅜	.04⅝
65-70 octane	.04¾	.05	.04¾	.04⅞
60-62 400	.03⅝	.03¾	.03⅝	.03¾
64-66 375	.04½	.04¾	.04½	.04¾
68-70 360	.04¾	.05	.04¾	.05
Aviation fighting grade	.05⅛	.05⅜	.05⅛	.05⅜
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.04¾	.05	.05	.05¼
60-64.9 octane	.06⅜	.06½	.06⅜	.06½
65-70 octane	.06¾	.07¼	.06¾	.07¼
64-66 375	.06	.06⅛	.06	.06⅛
68-70 350	.06¼	.06½	.06¼	.06½
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.06½		.07	.08¼
58-60 400	.08¼	.09	.08¼	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
New York	.05¾		.05½	.05¾
Baltimore	.05¾		.05½	.05¾
U. S. Motor, 60-64 octane:				
New York (Bayonne)	.05¾	.06	.05¾	.06
Philadelphia	.06	.06½	.06	.06½
Boston	.0620	.0645	.06¼	.06½
Baltimore	.05¾	.06	.05¾	.06
Charleston, S. C.	.05¾	.06	.05¾	.06
U. S. Motor, 65 and above:				
New York (Bayonne)	.06	.06¼	.06	.06¼
Philadelphia	.06¼	.06½	.06¼	.06½
Boston	.0645	.0670	.06½	.0670
Baltimore	.06	.06¼	.06	.06¼
Charleston, S. C.	.06	.06¼	.06	.06¼
GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04¾	.05	.04⅝	.04¾
60-64.9 octane	.05	.05⅛	.05	.05⅛
65 octane and higher	.05⅜	.05½	.05¼	.05½

Naphthas

	Feb. 27		Feb. 20	
PENNSYLVANIA (inland refineries)—				
50-52 430-450 (blending)	.04⅝	.04¾	.04⅞	.05
52-54 430-450 (blending)	.04⅝	.04¾	.05	.05⅛
54-56 430-450 (blending)	.04⅝	.04¾	.05	.05⅛
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾	.04	.03¾	.04
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-330 e.p.	.06⅜	.06⅝	.06⅝	.06⅞
Lacquer diluent, 180 i.b.p.-250 e.p.	.07⅜	.07⅝	.07⅝	.07⅞
Lacquer diluent, 140 i.b.p.-200 e.p.	.08⅜	.08⅝	.08⅝	.08⅞
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06¼	.06¾	.06¾	.07¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.05¾	.06¼	.06⅛	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.06	.06¼	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06⅜	.06⅝	.06⅝	.07
Petroleum spirits	.05⅜	.05⅝	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
Grade 26-70	.02⅜		.02½	
Grade 18-55	.02⅞	.03	.03	.03¼
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03⅛	.03¼	.03⅜	.03½
11 lb. v.p. (max.)	.03¾	.04	.03¾	.04
NORTH TEXAS—				
Grade 26-70	.02¼	.02⅜	.02⅜	.02½
Grade 18-55	.02¾	.02⅞	.02⅞	.03⅛
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03		.03¼	.03½
11 lb. v.p. (max.)	.03⅝	.03¾	.03¾	.04
NORTH LOUISIANA —				
Grade 26-70	.02¾	.02⅞	.02⅞	.03
CALIFORNIA—				
75-85 375	.06¼	.07	.06¼	.07

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
41-43	.03¼	.03½	.03¼	.03½
42-44	.03½	.03⅝	.03½	.03⅝
NORTH TEXAS—				
40-41	.03½	.03¼	.03¼	.03¼
41-43	.03¼	.03⅜	.03¼	.03⅜
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
41-43	.03¾		.03¾	
42-44	.04		.04	
ARKANSAS (Ark., No. La. & Miss. del.)—				
41-43	.03¾		.03¾	
PENNSYLVANIA (inland refineries)—				
45	.04½	.04¾	.04⅜	.04⅝
46	.04⅝	.05	.04⅝	.04⅞
47	.05	.05¼	.04⅞	.05⅛
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03½	.03¼	.03½
42-44	.03⅜	.03½	.03⅜	.03½
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04½	.05	.04½	.05
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.05¼	.05½
GULF COAST (domestic)—				
41-43	.04½	.04⅝	.04½	.04⅝

Petroleum Coke

Prices per ton f.o.b. refineries in Chicago area. (Refineries will absorb freight to 80 cents a ton)

	Feb. 27	Feb. 20
Breeze (screenings)	5.50	5.50
Pile run	5.50	5.50
Direct from still	6.50	6.50
Lump and egg	8.00	8.00

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
32-36 straw	.02⅝	.02¾	.02⅝	.02¾
36-38 straw	.02⅝	.02¾	.02⅝	.02¾
38-40 straw	.02¾	.02⅞	.02¾	.02⅞
39-41 prime	.02⅞	.03	.02⅞	.03
NORTH TEXAS—				
38-40 straw	.02¾	.03	.02¾	.03
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
36-40 furnace oil	.03		.03	
ARKANSAS (Ark., No. La. & Miss. del.)—				
32-36 furnace oil	.03		.03	
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02¾	.03	.02⅞	.03
38-40 straw	.02¾	.03	.02⅞	.03
38-40 prime white	.02⅞	.03⅛	.03	.03⅛
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.04½	.04¼	.04	.04⅛
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05½	.05¾	.05¼	.05½
32-36 (No. 2 grade)	.04¾	.05	.04½	
21 industrial (No. 4 grade)	.04¼	.04½	.04	

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon; Diesel and fuel oils per barrel)

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
32-36 gas oil cracking stock	.01⅞	.02⅛	.01⅞	.02⅛
U.G.I. gas oil	.02⅛		.02⅛	
32-36, zero to 15 gas oil	.02⅞	.03	.02⅞	.03
28-30, No. 3 burner oil	1.00	1.05	1.00	1.05
28-30, zero to 10 fuel oil	.95	1.00	.95	1.00
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.70	.75	.70	.75
20-22 fuel oil	.57½	.65	.57½	.65
Below 16 fuel oil	.55	.60	.55	.60
NORTH TEXAS—				
32-36 gas oil, industrial	.02		.02	
22-26 fuel oil	.57½	.62½	.57½	.62½
Below 20 fuel oil	.47½	.50	.47½	.50
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
32-36 gas oil, zero	.03		.03	
14-16 fuel oil	.65	.70	.65	.70
ARKANSAS (Ark., No. La. & Miss. del.)—				
30-32 gas oil, zero	.02¾		.02¾	
32-36 gas oil	.03		.03	
14-16 fuel oil	.65	.70	.65	.70
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
28-30 zero to 10, fuel oil	.97½	1.02½	.97½	1.05
26-28 zero to 10, fuel oil	.85	.90	.85	.90
22-26 zero to 10, fuel oil	.75	.80	.75	.80
18-22 zero to 10, fuel oil	.60	.65	.60	.65
Below 18 fuel oil	.40	.50	.40	.50

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.03⅝	.03¾	.03½	.03⅝
CALIFORNIA—				
30-34 gas oil per bbl.	1.00	1.15	1.00	1.15
27 plus Diesel	1.00	1.15	1.00	1.15
15-19 bunker (at tidewater)	.60	.70	.60	.70
15-19 (cargo lots)	.55	.60	.55	.60
15-19 (tank cars)	.45	.60	.45	.60
GULF COAST—				
28-30 gas oil	.03½		.03¾	
28-30 Diesel (bunkers)	1.80		1.80	
Bunker C (bulk cargoes)	.92½	.95	.92½	.95
Bunker C (bunkers)	1.05		1.05	
NEW YORK (Bayonne, N. J.)—				
28 plus, gas oil	.04¼		.04	.04¼
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04½		.04½	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.20		1.20	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
Zero to 10 Cold Test:				
150-3	.07¾	.08	.07¾	.08
180-3	.09	.09¼	.09	.09¼
180-4	.08¾	.09	.08¾	.09
200-3	.09½	.09¾	.09½	.09¾
200-4	.09½	.09½	.09¼	.09½
240-3	.11½	.11¾	.11½	.11¾
240-4	.11¼	.11½	.11¼	.11½
280-3	.12½	.12¾	.12½	.12¾
280-4	.12	.12¼	.12	.12¼
300-3½	.13¼	.13½	.13¼	.13½
350-3½	.14¼	.14½	.14¼	.14½
400-4	.15¼	.15½	.15¼	.15½
500-4½	.16¼	.16½	.16¼	.16½
100-2 paraffin oil	.05½	.05¾	.05½	.05¾
15-30 Cold Test:				
200-3	.08¼	.08¾	.08½	.08¾
200-4	.08¼	.08½	.08¼	.08½
240-3	.10½	.10¾	.10½	.10¾
240-4	.10¼	.10½	.10¼	.10½
280-3	.11½	.11¾	.11½	.11¾
280-4	.11¼	.11½	.11¼	.11½
GULF COAST—				
Pale Oils:				
200-3	.07½		.07½	
300-3	.08	.08¼	.08	.08¼
500-3½	.09	.09¼	.09	.09¼
750-3½	.09½	.09¾	.09½	.09¾
1,200-3½	.10	.10¼	.10	.10¼
2,000-4	.10½	.10¾	.10½	.10¾
Red Oils:				
200-5-6	.06½		.06½	
300-5-6	.07	.07¼	.07	.07¼
500-5-6	.08	.08¼	.08	.08¼
750	.08½	.08¾	.08½	.08¾
1,200-5-6	.09	.09¼	.09	.09¼
2,000-6½ plus	.09½	.09¾	.09½	.09¾
CALIFORNIA—				
Pale Oils:				
100-2½-3	.23	.25	.23	.25
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25

350-3-4	.23	.25	.23	.25
400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25
550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25
350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25
450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	2.3	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVNIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.23½	.24	.23½	.24
10 pour test	.22½	.23	.22½	.23
15 pour test	.22	.22½	.22	.22½
25 pour test	.21	.21½	.21	.21½
180 vis. at 70° F., 3 color:				
25 pour test	.25	.25½	.25	.25½
200 vis. at 70° F., 3 color:				
Zero pour test	.30	.30½	.30	.30½
10 pour test	.28½	.29	.28½	.29
15 pour test	.28	.28½	.28	.28½
25 pour test	.27½	.28	.27½	.28

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
630 light green	.15		.15	
600 light green S.R.	.07	.09	.07	.09
600 dark green S.R.	.05	.07	.05	.07
Bright Stocks:				
190-200 D	.26½		.26½	
150-160 D, 0-10	.23¾		.23¾	
150-160 D, 10-25	.23¼		.23¼	
150-160 D, 25-40	.22¾		.22¾	
150-160 E	.22¾		.22¾	
PENNSYLVANIA—				
600 S.R.	.18½	.19	.18½	.19
650 S.R.	.21	.21½	.21	.21½
600 Pennsylvania flash	.22	.22½	.22	.22½
630 flash	.26½	.27	.26½	.27
600 Warren E filtered	.21½	.22	.21½	.22
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 at 210; 540-550 flash:				
10 pour test	.29	.29½	.29	.29½
15 pour test	.28½	.29	.28½	.29
20 pour test	.28	.28½	.28	.28½
25 pour test	.27½	.28	.27½	.28

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Feb. 27		Feb. 20	
124-126 white crude scale	.03¾	.03⅞	.03¾	.03⅞
PENNSYLVANIA—				
122-124	.0405		.04	.0405
124-126	.04⅛		.0405	.0410
NEW YORK HARBOR—				
Wax (a.m.p.) in bags:				
120-122	.0460		.04425	
123-125	.0470		.04575	
125-127	.0480		.04675	
130-132	.0520		.05075	
133-135	.0580		.05675	
135-137	.0605		.05925	
124-126 crude scale	.03¾	.04⅛	.03⅞	.04⅛
Petrolatum in barrels in carload lots:				
Dark green	.01⅞	.02	.01⅞	.02
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03⅛	.03¼	.03⅛	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124 wax	.0465	.0475	.0465	.0475
125-127 wax	.0490	.0500	.0490	.0500
127-129 wax	.0505	.0515	.0505	.0515
130-132 wax	.0565	.0575	.0565	.0575
132-134 wax	.0590	.0600	.0590	.0600

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F., a.m.p.

Export Prices

GASOLINE

GULF COAST—	Feb. 27		Feb. 20	
U. S. Motor	.04⅞	.05	.04⅞	.05
60-62 400	.05⅛		.05⅛	
61-63 390	.05¼		.05⅜	
64-66 375	.05	.05½	.05⅜	.05½
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04¼	.04½	.04¼	.04½
55-65 octane	.04½	.04¾	.04½	.04¾
65-67 octane	.04¾	.05	.04¾	.05
67-69 octane	.05	.05¼	.05	.05¼
Above 69 octane	.05¼	.05¾	.05¼	.05¾
58-60 400 endpoint	.05	.05¾	.05	.05¾

KEROSENE

GULF COAST—				
41-43 prime white	.04⅛	.04¼	.04⅛	.04¼
41-43 water white	.04¼	.04⅜	.04¼	.04⅜
44 water white	.04⅜	.04½	.04⅜	.04½
LOS ANGELES, CALIF.—				
41-43 water white	.04	.04½	.04	.04½

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.28	.29	.28	.29
600 S.R. unfiltered	.26	.26½	.25½	.26½
650 S.R. unfiltered	.28	.28½	.27½	.28½
600 flash S.R.	.28½	.29½	.28½	.29
630 flash S.R.	.33	.33½	.32½	.33
Bright stock, 8 color	.34½	.35½	.34	.35
Bright stock, 6½ plus, dil.	.33	.34	.33	.34

NEUTRAL OILS

200-3 color	.33	.34	.33	.34
150-3 color	.28	.28½	.28	.28½

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound)—				
120-122 a.m.p.	.0455		.04⅝	.04½
123-125 a.m.p.	.0465		.04½	.04⅝
125-127 a.m.p.	.0475		.04⅝	.04¾
130-132 a.m.p.	.0515		.05⅛	.05¼
133-135 a.m.p.	.0575		.05⅝	.05¾
135-137 a.m.p.	.06		.05⅞	.06

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson, and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas, and Louisiana	9 Gulf Coast, Texas, and Louisiana	10 Caddo, Louisiana	11 Sabine-DeSoto, Louisiana	12 Homer, Louisiana	13 Sarepta-Caterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas	17 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....	....	....	....	....	....	....	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.63	$.69	$.71	$.75	$.76	$.65	$.62	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.65	.71	.73	.77	.77	.67	.64	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.67	.73	.75	.79	.79	.69	.66	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.69	.75	.77	.81	.81	.71	.68	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.71	.77	.79	.83	.83	.73	.70	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....	....	....	....	....	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.73	.79	.81	.85	.85	.75	.72	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.75	.81	.83	.87	.87	.77	.74	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.77	.83	.85	.89	.89	.79	.76	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.79	.85	.87	.91	.91	.81	.78	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.81	.87	.89	.93	.93	.83	.80	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.83	.89	.91	.95	.95	.85	.82	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.85	.91	.93	.97	.97	.87	.84	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.87	.93	.95	.99	.99	.89	.86	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.89	.95	.97	1.01	1.01	.91	.88	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.91	.97	.99	1.03	1.03	.93	.90	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	.93	.99	1.01	1.05	1.05	.95	.92	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	.95	1.01	1.03	1.07	1.07	.97	.94	1.02

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedules: Below 25 degrees, 76 cents; 25-25.9 degrees, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedule at below 29 degrees, 84 cents, excepting Phiitex Oil Co., which begins with below 31 degrees at 88 cents.

Column 1—Effective September 29, Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phiitex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; on October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29 degrees, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29 degrees, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. For Standard Oil Co. of Louisiana's prices see Columns 10 to 16, inclusive.

Column 4—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Phiitex Oil Co. posted below 31 degrees, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents.

Column 5—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phiitex Oil Co. posted below 31 degrees, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents.

Column 6—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30, by Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7—Effective September 29 by Stanolind Oil & Gas Co.

Column 8—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 20-20.9 degrees, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 20 degrees, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20 degrees, 70 cents, with 2 cents added for each degree upward to 34 degrees and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20 degrees, 80 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.10.

Column 9—Effective September 30, Texas Co. (On September 29, Texas Co. had posted a schedule 2 cents lower on each degree, but changed it on September 30.)

Columns 10, 11, 12, 13, 14, 15, 16—Effective September 29, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co.

Column 17—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 31)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.08
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933)	$ .70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.75
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties.	See gravity table.

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Cleveland (Jan. 11, 1934)	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.85
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Oil & Gas Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co. Cleveland (Liberty County), posted by Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co.

(Continued on Page 31)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

February 27, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	21 0	21.0	7.0	14.0
Augusta	21.0	21.0	7.0	14.0
Macon	21 5	21.5	7.0	14 0
Savannah	21.5	21.5	7.0	14.0
Birm'ham, Ala.	23 5	23.5	8.0	12 0
Mobile	23.5	23.5	8.0	12 5
Montgomery	21.0	21.0	8.0	14 5
Jackson, Miss.	20.5	20.5	7.0	13.0
Vicksburg	20.0	20.0	7.0	13.0
Jack'ville, Fla.	21.5	21.5	8.0	12 5
Miami	21.5	21.5	8.0	13 5
Pensacola	21 5	21 5	8.0	13 5
Tampa	21.5	21.5	8.0	12 5
Lexington, Ky.	19 0	19 0	6.0	11.0
Covington	19.5	19 5	6.0	11 0
Louisville	19 5	19 5	6 0	11.0
Paducah	18.5	18.5	6.0	10.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	17.0	19 0	5.0	8 5
Fort Worth	17 0	19.0	5.0	8 5
Houston	15.0	17.0	5.0	8.5
San Antonio	17.0	19 0	5.0	8.5
El Paso	17 5	19.5	5.0	11.0
Muskogee, Ok.	16.0	18 0	5.0	8 5
Okla. City	16 0	18 0	5.0	8.5
Tulsa	16.0	18.0	5 0	8.5
Ft. Smith, Ark.	14.5	16.5	5.0	8.0
Little Rock	17 1	19.1	7.5	9.0
Texarkana	15.0	17.0	5.0	8.5

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	16.3	18.3	4.0	9.7
Decatur, Ill.	16.7	18.7	4.0	10.2
E. St. Louis	17.0	16.2	4.0	9.5
Joliet	16.7	18 7	4.0	10.2
Peoria	16.7	18.7	4.0	10.2
Quincy	17.5	17.5	4.0	10.0
Davenport, Ia.	16.6	18 6	4.0	10.1
Des Moines	16.6	18.6	4.0	8.0
Mason City	16.6	18 6	4.0	10.1
Sioux City	16.2	18.2	4.0	9.7
Duluth, Minn.	17.2	19.2	4.0	10.4
Mankato	16.8	19.8	4.0	10.3
Minneapolis	16.9	18 9	4.0	10.4
LaCrosse, Wis.	18.3	20.3	4.8	10.8
Green Bay	17.7	19.7	5.0	10.2
Milwaukee	17.2	19.2	5.0	9.7
Madison	17.4	19.4	5.0	9.9
Detroit, Mich.	17.5	17.5	4.0	10.5
Grand Rapids	16.7	18.7	4.0	10 2
Saginaw	17.0	19.0	4.0	10.5
Evansville, Ind	15.5	15.5	5.0	10.0
Indianapolis	17.7	19.7	5.0	10.2
South Bend	18 0	20.0	5.0	10.5
Fargo, N. Dak.	18.6	20.6	4.0	21.1
Huron, S. Dak.	19.9	19.9	5.0	11.4
Sioux Falls	18.4	20.4	5.0	10.9
K. C., Mo.*	15.7	17.7	4.0	8.2
Springfield*	17.6	18.6	4.0	9 1
St. Louis	15.7	15.7	3.5	8.7
St. Joseph*	15.2	17.3	4.0	8.3
Wichita, Kans.	14.6	16.6	4.0	8.1
Bartlesville, Ok.	16.0	18.5	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

In St. Louis and St. Louis County, Missouri, the following discounts are in force: For 300 to 2,000 gallons monthly, 2 cents on regular and premium, 1 cent on third grade; for 2,001 to 10,000 gallons, 3 cents on regular and premium, 1 cent on third grade; for more than 10,000 gallons, 3½ cents on regular and premium, 1 cent on third grade.

Stanolax Furnace Oil in Chicago

Effective September 13, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents; No. 2 (30-34 stw. zero), 7¾ cents; No. 3 (22-26 zero), 7¼ cents; No. 4 under 300 gallons (12-16 zero), 6¾ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5 under 300 gallons, 6 cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank wagon
Oleum spirits	13.9
V.M.&P. naphtha	15.9
Cleaners' naphtha	15 0
Stanisol	15.0

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	17.5	17.0	4.0	10.0
Newark	16.8	16.3	4.0	9.5
Annapolis, Md.	18.1	17.6	5.0	10.0
Baltimore	17 6	17.1	5 0	9.0
Cumberland	19.1	18.5	5.0	12.7
Wash'g'n, D. C.	15.8	15.3	3.0	11.0
Danville, Va.	20.2	19.7	6.0	13.9
Norfolk	18.7	15 5	6.0	11.3
Petersburg	19.5	19.0	6.0	11.4
Richmond	18 1	17 6	6 0	11 7
Roanoke	20.3	16.8	6.0	13.9
Charles'n, W.Va.	18.5	18.0	5.0	12.6
Parkersburg	17.8	17.3	5.0	11.2
Wheeling	18.5	18.0	5.0	12.3
Charlotte, N. C.	21.9	21.0	7.0	13.5
Hickory	22.2	19.0	7.0	13.7
Mt. A'ry	22.2	21.7	7.0	13.8
Raleigh	21.7	21.0	7.0	13.3
Salisbury	22.0	19.0	7.0	13.6
Charleston, S.C.	19.7	19.2	7.0	11.3
Columbia	21.5	21.0	7.0	13.2
Spartanburg	21.9	21.0	7.0	13.5

Note—Dealer contracts are written at 2½ cents above the posted tank car price, less a voluntary allowance of one-half cent per gallon. This affects all points. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	19.3	17.5	*7.0	†12.0
Baton Rouge	18.7	16 2	6 0	†11 0
Alexandria	19.6	17.5	*7.0	†10.0
Lafayette	19.8	15 9	*7.0	†12.0
Lake Charles	19.7	15.5	*7.0	†12.0
Shreveport	17.5	17.0	6.0	†12.0
Knoxville, Tenn.	23.2	22.7	8.0	13.0
Memphis	21.6	17.0	8.0	9.5
Chattanooga	23 0	22 5	8.0	12.0
Nashville	22 4	21 5	8.0	11 0
Bristol	23.5	21.0	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Commercial consumers for tank wagon delivery pay following amounts over tank car price, basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	16.5	17.5	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	18.3	19.3	5.0	9.0
McCook	18.4	18.4	5.0	8.0
Norfolk	18 8	19 8	6.0	11.3
North Platte	19.8	20 8	5.0	9.0
Scottsbluff	19.3	19.3	5.0	11.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown gasoline, 3 cents. Reliance (third grade) gasoline, 2 cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contract (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank wagon†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco	16.5	19 5	4.0	12 5
Los Angeles	14.5	17.5	4.0	12.5
Fresno, Calif.	12.0	15.0	4.0	14.0
Phoenix, Ariz.	18 5	21.5	6 0	‡16 0
Reno, Nev.	20.0	23.0	5.0	15 5
Portland, Ore.	19.0	22.0	5.0	13.5
Seattle, Wash.	19 0	22.0	6 0	13 5
Tacoma	19 0	22 0	6 0	13.5
Spokane	20.0	23.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and mustomers taking tank wagon lots except in Phoenix where the discount is 1 cent ‡Includes 5 cents state tax.

New York and Part of New England

STANDARD OIL CO. OF NEW YORK

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.1	17.1	4.0	9.0
New York	16.0	17.0	4 0	8.5
Buffalo	16.7	17.7	4.0	8.5
Rochester	15.5	16.5	4.0	8.5
Syracuse	16.6	17.6	4.0	9.0
Boston, Mass.	16.0	17.0	4.0	8.5
Portland, Me.	17.2	18.2	5.0	9.5
Manch't'r, N.H.	18.2	19.2	5.0	9.0
Burlington, Vt.	18.8	19.8	5.0	9.5

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Philadelphia, Pa.	15 0	16 0	4.0	10.0
Pittsburgh	16.5	17 5	4.0	10.0
Allentown	16.5	17 5	4 0	10 0
Erie	16 5	17.5	4 0	10.0
Scranton	16.5	17 5	4 0	10 0
Altoona	16.5	17.5	4 0	10.0
Dover, Del.	16.5	17.5	4 0	10.0
Wilmington	13.5	13.5	4 0	10 0
Boston, Mass.	15 5	16.5	4.0	8.5
Springf'ld	16 6	17.6	4.0	8.0
Worcester	16.5	17.5	4.0	8.5
Hartford, Conn.	15.4	16.4	3.0	8.5
New Haven	15.2	16.2	3.0	8.0
Providence, R.I.	15.0	16.0	3.0	8.0

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	19.5	22.0	6.0	12.5
Pueblo	17.5	20.0	6.0	13.0
Grand Junction	21.5	24.0	6.0	15 0
Casper, Wyo.	19 0	21.5	5.0	11.5
Cheyenne	17 5	20 0	5 0	13.0
Butte, Mont.	20.5	23.0	5.0	17.5
Billings	22 5	25.0	6 0	16.5
Helena	22.0	24.5	6.0	17.5
Great Falls	22 0	24.5	6.0	17.5
Salt Lake, Utah	21.5	24.0	5 0	16 0
Boise, Idaho	22 5	25.0	6.0	18.0
Twin Falls	22.5	25.0	6.0	18.0
Albu'que, N. M.	19.0	22.0	*7.0	13.0

*One-cent city tax.

Effective October 21, 1933, discount to dealers with or without contract throughout Continental territory except New Mexico as follows: Service station price less 3 cents for regular grade and 2 cents for third grade.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.†	26.5	27.5	6.0	17.5
Toronto, Ont.†	26.5	27.5	6.0	17.5
Brandon, Man.*	31.0	34.5	7.0	22.5
Winnipeg, Man.	28.7	31.7	7.0	20.2
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.8	34.8	6.0	24.2
Edmonton, Alta.	31.2	34.2	6.0	23.7
Calgary, Alta.	28.5	31.5	6.0	21.0
Vanc'ver, B.C.†	30.0	31.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. Johns, N. B.	26.5	30.5	7.0	21.0
Halifax, N. S.	25.5	29.5	6.0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia, subject to dealer's discount of 3 cents per gallon.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of California February 17 reduced the tank wagon and service station prices of gasoline 1½ cents in Fresno; February 20, reduced them 1½ cents in Los Angeles and 2 cents further in Fresno.

Standard Oil Co. (Indiana) February 23 advanced the service station price of gasoline 1 cent and reduced the tank wagon price 1 cent throughout its territory, with minor additional changes due to freight rate modifications.

Standard Oil Co. of New Jersey February 15 reduced the service station price of gasoline .2 cent in Raleigh; February 20, advanced the service station price 3.3 cents and reduced the tank wagon price .3 cent in Washington (this corrects an error in the report on tank wagon price published last week); February 17, reduced the service station price in Roanoke one-half cent; February 19, reduced it 1 cent further; February 20, reduced it one-half cent further; February 21, reduced it 1 cent further.

Standard Oil Co. of Louisiana February 10 reduced the service station price of gasoline 1 cent in Lake Charles; February 14, reduced it 1 cent in Lafayette; February 17, reduced it 1 cent in New Orleans.

Standard Oil Co. of New York January 19 reduced the tank wagon price of kerosene one-half cent in New York. February 23 it advanced the price one-half cent throughout its territory.

Continental Drivers Make Excellent Safety Records

PONCA CITY, Okla., Feb. 26.—It is possible to drive a truck an entire year without even a minor mishap, such as denting a fender or smashing a tail light, to say nothing of turning a somersault into a ditch.

A total of 510 drivers of trucks and automobiles for the Continental Oil Co. did that during 1933. As a result, each will receive an engraved certificate, signed by W. W. Bruce, executive vice president of the company and by Joe S. Boylan, director of safety.

MOST CARS OUT OF TUNE

Statistics compiled as a result of testing and scientifically adjusting 250,000 cars on the Cities Service power prover, indicate that there are few, if any, cars on the road in perfect mechanical condition.

The results of the tests indicate that out of every 100 cars on the road today 99 have faulty ignition timing; in 59 the spark plugs probably would fail when tested; on 97 the carburetor is most likely out of adjustment; and 57 cars have badly pitted breaker points.

The facts brought out are particularly significant in view of the magnitude of the survey. The tests were conducted on all makes and types of cars in over 100 cities throughout the country.

The power prover is a machine developed after many years of research by Cities Service engineers. By analyzing the exhaust gas of a car, it accurately reports the mechanical efficiency of the motor.

TAX CONFERENCE MEETING

The Southwest group of the North American Gasoline Tax Conference will meet in Fort Worth at 10 a.m. March 10. H. V. Bird, secretary of the Southwest group, with headquarters in Oklahoma City, said 30 representatives would attend the conference, coming from Texas, Oklahoma, Arkansas, Louisiana and New Mexico.

Objects of the meeting will be to elect representatives to a national conference on gasoline taxes and to discuss the methods of taxing petroleum products in the Southwest.

Stronger Tone, Firmer Prices in Chicago, Although Not Extensive as Desired

BY SPECIAL CORRESPONDENT

CHICAGO, Feb. 26. — A considerably stronger tone, along with moderately firmer prices, came into the tank car gasoline market here late in the week and carried over to the beginning of the new week, following upon the advance of 1 cent in service station prices and the decline of 1 cent in tank wagon prices in Standard of Indiana territory. The improvement imparted to the market, however, up to this writing has not been as extensive as was desired by many refiners.

The whole trade here is studying what are considered to be the implications in the recent diverse and varied moves of the petroleum administration and the markets. Opinion is by no means agreed on these questions. Some profess to see in the occurrences of the last few weeks a plan toward tighter control of the whole industry. Others contend that some degree of supervision and regulation will be continued in the future, but that its nature will be considerably modified.

See Further Gains

Whereas the market appeared literally to be falling apart around February 20, the current appearance of the general situation seems much improved. Refiners contend that additional improvement is due immediately. Jobbers, while they came into the market a little more freely in the last few days, are still somewhat unconvinced. It is the contention of refiners at this time that they are entitled to receive not less than one-half cent higher tank car prices, following a full cent service station price advance, since their prices already were much below what they considered justifiable. Some believe they should have at least a cent more than the lows reached a few days ago. They assert the new service station levels provide the jobbers with an unnecessarily large margin. It is argued on the other hand that the reduced tank wagon prices and the new discounts will take away some of the benefit to the jobbing trade which otherwise would have accrued.

Despite the late-February cold wave, the trade here feels optimistic over the outlook for consumption of gasoline. The month has been divided half-and-half on this matter, the first two weeks registering a fine consumer demand, the last half, a much reduced demand due mainly to adverse weather conditions. The general expectation is for a good spring retail gallonage, provided weather is at all favorable.

Other sellers were prompt to follow the lead of Standard in adopting the 2-cent differential between tank wagon and service station prices. At the same time, jobbers began to buy a little more briskly in the tank car market. They also ordered out more material against their contracts. While there was no tremendous buying wave, sufficient orders came in to strengthen the market, and at the same time the offerings of the extremely cheap distress gasoline disappeared. Both low-octane and better grade material firmed up together, with previous differentials just about maintained.

High gravity gasolines have been in rather good call, due to the recurrence of cold weather. Natural gasoline has been holding its own fairly well.

Kerosene

Kerosene has revealed a disposition to more activity. Jobbers are ordering it out to put away for the spring demand, with general belief expressed that tractors will be operating in large numbers this year despite many statements to the contrary. Prices are about unchanged.

Heating Oils

Distillates have been fighting a losing price battle. Although February temperatures have been brought to a daily average level about normal, too much material piled up previously and only the recent cold weather appears to have kept distillates and gas oils from cracking. As it is, prices are fractionally lower.

The same holds true of the zero fuels, although prices are not drastically lower as yet on some materials.

Naphthas

Naphthas and solvents are featureless. They have been a little irregular but on the whole are not revealing any particular trend.

Industrial Oils

Meanwhile, industrial fuels and gas oils are maintaining a strong tone and giving a continued good account of themselves. The demand is spotty but in the aggregate has been surprisingly good and the persistent firmness in crude is keep-

(Continued on Next Page)

Crude Oil Prices

(Continued from Page 29)

Effective September 29 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (Sept. 29, 1933)	.87
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 9, 1933)	See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1933)	See Mid-Continent gravity prices
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 8, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Jan. 18, 1933)	.52
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome (Dec. 16, 1932)	.36
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos-Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Other fields	(See gravity table)

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective October 4, 1933)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective October 4, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.12
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.07
Pennsylvania Grade Oil in Buckeye Pipe Line lines (Jan. 29, 1934)	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 3, 1933)	1.32

PENNZOIL CO.
(Effective October 4, 1933)

Pennsylvania Grade Oil in National Transit Lines:	
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.	$2.37
Group B (Includes Titusville district.	2.36
Group C (Includes Turkey and Tidioute districts.	2.35
Group D (Includes Bear Creek and Porkey districts.	2.34
Group E (Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts. Price depends on length of pipe line haul to plant at Oil City.	2.33

PURE OIL CO.
(Effective October 4, 1933)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky	1.13
Midland, Mich. (Sept. 30, 1933)*	1.02
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.23
Hart County, Ky. (Oct. 1, 1933)	1.13

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Dec. 9, 1933):†	
Clear naphtha	$3.15
Discolored naphtha	2.91
Crude oil, 50 gravity	2.66
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.80

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$.72

*F.o.b. ship, based on December transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$ 65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	71	.65	....	.68	....	....	....	.68
18-18.9	72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21.21-9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$ 72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1 04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1 04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1 06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.05
30-30.9	1.09	1.10	1 12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1 21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over 1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Lisbon to Build Another Plant in East Texas Area

FORT WORTH, Tex., Feb. 26.—The Lisbon Gasoline Co. of Shreveport, which has one gasoline plant in the south end of the East Texas Field, in southern Rusk County, has just started construction on a second plant on a location just west of West Carlisle on the Mid-Kansas Oil & Gas Co.'s lease.

The plant will be connected to 375 wells, the majority of which are owned by the Mid-Kansas Oil & Gas Co. and Stanolind Oil & Gas Co., by a 35-mile gathering system.

A return system is also to be laid for repressuring wells when necessary.

Six 200 horsepower twin Clarke engines are being installed in the plant which is to have a capacity of 10,000 gallons a day. A 2-inch line is to be laid to connect the new plant with the existing plant about 3 miles to the north, this line will deliver the raw gasoline from the new plant to the stabilizer in the more complete plant.

Part of the gathering line is to be coupled pipe, part screwed and the remainder welded. A. H. Knight is construction superintendent. The plant will be completed about the middle of March.

Halt Downward Trend of Refinery Gasoline

(Continued from Page 26)

With the approach of spring burning oils are nearing the end of their seasonal strong demand. Besides this the trade in fuels has been subjected to the depressive influence of excess supplies in the Chicago area. These overaccumulations of stocks, resulting from relatively mild weather at the opening of winter, prompted their owners early in February to shade prices in an effort to move them. The Group 3 market was weakened by the price concessions made in the Chicago district. The cold wave which swept much of the country in the last week had the effect of stimulating the heating oils and at the same time the Chicago price shading is said to have been discontinued, with the result that the fuels were regarded as looking better than last week. Distillates sought for heating purposes were reported as getting scarce.

MR. GARFIAS' ARTICLE

V. R. Garfias writes: "I notice that in my paper on 'Tanker Rates and Canal Tolls as Factors Determining Markets of Foreign Oils' in your issue of February 22, on page 11, the figures of cost of marine transportation of a 10,000 dead weight tonnage boat read the 'Port charges per trip, per day $1,500.' My manuscript does not include the words 'per day' because this charge is not per day but for each trip. The words 'per day' convey the wrong idea that the total port charges would be six times $1,500, as lower in the tabulation the days in port per trip are listed as six."

JOSEPH D. HICKS DEAD

Joseph D. Hicks, president of the Robinson-Hicks Drilling Co., died in Tulsa Monday evening, February 26, after a long illness. Mr. Hicks was a son of Scotch and Cherokee Indian parents. He entered the oil business in 1916. In the course of his career he was associated with J. E. Crosbie, B. G. Goble and the Bradstreet interests in oil operations.

R. D. PEARCE DIES

Ralph Dent Pearce, 37, assistant traffic manager of the Skelly Oil Co., died at his home in Tulsa February 25 after an illness of four months. He came to Tulsa in 1920. He had been with the Skelly Oil Co. for 11 years, originally as chief rate clerk.

CHICAGO POST OFFICE BIDS

CHICAGO Feb. 26.—The United States post office at Chicago has asked for bids on 250,000 gallons of U. S. motor gasoline, 60-64 octane, for its requirements for April, May and June.

Block in Andrews County Bought by the Texas Co.

FORT WORTH, Tex., Feb. 26.—Purchase of a solid block of 2,080 acres directly north of the now abandoned Deep Rock Pool in Andrews County by the Texas Co. featured the awards to bidders for university land oil leases Saturday.

The sale, which involved leases to lands in University Block 14 in Andrews County, and University Block 30 in Crane County, added $108,200 to the university permanent fund.

The Texas Co. acreage purchases totaled slightly in excess of $28,800, or about a quarter of the sale. The average was around $14 with a top of about $20 per acre. Humble was the largest acreage buyer.

The Crane County acreage is in Block 30, between the University (Church & Fields) Pool and the small Gulf production on the Waddell and the new deep test being drilled by Duffy and others. While one tract bid in by the Texas Co. brought almost $15 per acre and a second tract close to that figure, most of the acreage was bid in for nominal sums.

Leases were awarded for land in Block 30, Crane County, as follows:

NW Section 2, Empire Gas & Fuel Co., $760; NE Section 5, Phillips Petroleum Co., $3,520; NW Section 5, California Co., $2,576; S half Section 5, Texas Co., $4,656; N half Section 6, California Co., $2,660.40; S half Section 6, Magnolia Petroleum Co., $1,619.20; Section 7, Texas Co., $2,963.20; NE Section 8, Phillips Petroleum Co., $2,320; S half Section 8, California Co., $3,552; Section 9, Phillips Petroleum Co., $7,680; SE Section 10, Empire Gas & Fuel Co., $760, and S half Section 18, Magnolia Petroleum Co., $1,969.20.

Tracts in Block 14, Andrews County, were leased as follows:

Section 1, Humble Oil & Refining Co., $2,656; N half Section 2, Magnolia Petroleum Co., $1,619.20; SW Section 2, Humble Oil & Refining Co., $664; NW Section 3, Phillips Petroleum Co., $1,000; S half Section 3, Texas Co., $3,123.20; Section 4, Texas Co., $12,972.80; NW Section 5, Texas Co., $1,643.60; S half Section 5, Texas Co., $3,651.20; N half Section 6, Texas Co., $3,363.20; N. half Section 7, Texas Co., $5,059.20; SW Section 7, Humble Oil & Refining Co., $344; S half Section 9, Phillips Petroleum Co., $2,118.40; N half Section 10, Humble Oil & Refining Co., $1,008; SW Section 10, Magnolia Petroleum Co., $809.60; N half Section 11, Phillips Petroleum Co., $2,240; SW Section 11, Humble Oil & Refining Co., $344; N half Section 12, Humble Oil & Refining Co., $688; SW Section 12, Humble Oil & Refining Co., $344; Section 13, Humble Oil & Refining Co., $1,696; Section 14, Humble Oil & Refining Co., $2,656; N half Section 15, Stanolind Oil & Gas Co., $1,792; SW Section 15, Humble Oil & Refining Co., $824; Section 16, Humble Oil & Refining Co., $3,296; N half Section 17, Humble Oil & Refining Co., $688; SW Section 17, Stanolind Oil & Gas Co., $408; Section 18, Humble Oil & Refining Co., $1,376; N half Section 19, Humble Oil & Refining Co., $688; SW Section 19, Stanolind Oil & Gas Co., $408.

Remaining tracts in Block 14 were awarded to the Humble Oil & Refining Co., as follows: Section 20, $2,656; N half Section 21, $1,328; SW Section 21, $664; Section 22, $2,656; N half Section 23, $1,328; SW Section 23, $664; Section 24, $1,376; N half Section 25, $688; SW Section 25, $344; N half Section 26, $1,328, and SE Section 26, $664.

The Oil Man's Calendar

March

5-9—Washington, D. C., American Society for Testing Materials, Committee D-2.

5-9 — Philadelphia, Pa., American Oil Burner Association.

5-9—Group meetings, A.S.T.M. committee, Wardman Park Hotel, Washington, D. C.

7—A.S.T.M. regional meeting, at Wardman Park Hotel, Washington, D. C.

12-14—Michigan Oil Men's Association, Hotel Statler, Detroit, Mich.

15—Independent Oil Men's Association of New England, tenth annual meeting, Statler Hotel, Boston, Mass.

22-24—Dallas, Tex., American Association of Petroleum Geologists annual meeting, Baker Hotel.

25-30—St. Petersburg, Fla., American Chemical Society.

April

4—American Petroleum Institute. California district meeting, Division of Production, Los Angeles, Calif.

6-7—American Petroleum Institute. Eastern district meeting, Division of Production, State College, Pa.

10—Michigan Independent Distributors Association, place to be named later.

16-21 — Houston, Tex., Oil Equipment and Engineering Exposition.

(?)—National Oil Marketers Association.

Philadelphia, Pa., American Oil Burner Association.

19-20—National Petroleum Association, Cleveland, Ohio.

May

1-4 — Washington, D. C., U. S. Chamber of Commerce.

3-4-5 — Kansas City, Mo., twelfth Midwest regional meeting of American Chemical Society.

9-10-11 — Tulsa, Natural Gasoline Association of America, New Hotel Tulsa.

12-19—Tulsa, International Petroleum Exposition.

14-21—American Institute of Chemical Engineers (tentative), Waldorf-Astoria, New York.

17-18—Roanoke, Va., Virginia Oil Jobbers Association, and Virginia Oil Men's Association.

22-24 — Pittsburgh, Pa., midyear meeting, A. P. I. divisions, William Penn Hotel.

June

14-15—Northwest Petroleum Association, North Dakota division, place to be decided later.

25-29—A.S.T.M. annual meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, N. J.

25-29—American Society of Mechanical Engineers, Denver, Colo.

28-29—State College, Pa., Pennsylvania Grade Crude Oil Association.

28-29 — Charleston, W. Va., West Virginia Oil Marketers Association.

September

9 — Wernersville, Pa., American Trade Association executives.

10-14 — Cleveland, Ohio, American Chemical Society.

19-21 — Atlantic City, N. J., National Petroleum Association.

October

9—Michigan Independent Petroleum Distributors Association, place to be named later.

16-18—Big Four State Jobbers Association Convention, Kansas City, Mo.

29—American Gas Association Convention and Exhibition, Atlantic City, N. J.

November

12-15—Dallas, Tex., annual meeting, A.P.I.

Bridgeport Will Handle Tiger Trade-Mark Line

The Bridgeport Machine Co., Wichita, Kans., has completed arrangements to stock and distribute the products of the American Steel & Wire Co. The complete line, including drilling lines, rotary lines, casing lines, etc., of the products bearing the familiar Tiger trade-mark will be carried in all the company's stores throughout the Mid-Continent and Gulf Coast.

Stronger Tone, Firmer Prices in Chicago Market

(Continued from Preceding Page)

ing these materials firm. The refiners are after good cracking stock at almost any price within reason and they are keeping the market stripped of such products as 18-22 and 24-26 high cold test fuels.

Lubricants

Lubricants have quieted down, but are still firm in most regions, with buying not very brisk.

Coke

Petroleum coke is still in relatively good call and the price situation remains quite firm. Good steady consumer business is being built up for the product.

Wax

No higher prices have as yet been posted for wax, although the market is extremely strong and higher quotations are being talked. Domestic and export interest is being kept at a relatively high level.

ROCKY MOUNTAIN FIELDS

Average daily production week ending February 24:

	Bbls.
WYOMING	
Salt Creek	18,520
Big Muddy	1,640
Badger Basin	40
Byron-Garland	990
Byron-East	250
Dallas Derby	300
Dutton Creek	90
Elk Basin	550
Ferris	20
Frannie	1,230
Grass Creek	680
Greybull	10
Hamilton Dome	630
Hudson	210
LaBarge	990
Lance Creek	260
Lost Soldier	1,840
Mule Creek	shut in
Midway	70
Notches	shut in
Oregon Basin	shut in
Osage	840
Pilot Butte	30
Rex Lake	shut in
Rock River	1,540
South Casper	shut in
Poison Spider	100
Teapot	20
Total Wyoming	30,840
MONTANA	
Buckley-Border	180
Cat Creek	650
Cut Bank	1,540
Dry Creek	20
Kevin-Sunburst	2,400
Lake Basin	50
Pondera	1,070
Total Montana	5,910
COLORADO	
Florence	170
Fort Collins and Wellington	530
Iles Dome	1,200
Moffat	520
Orchard	120
Rangely	90
Tow Creek	150
Total Colorado	2,780
NEW MEXICO	
Artesia	530
Cooper area	110
Empire area	0
Eunice area	1,080
Getty Pool	0
Hobbs	33,540
Hogback	200
Hospah	shut in
Jal	1,530
Lea area	1,880
Jackson	1,950
Maljamar	140
Rattlesnake	770
Table Mesa	80
Total New Mexico	40,960
Total all fields	80,490
Total previous week	79,230
Difference	1,260

NATURAL GASOLINE MANUFACTURE

Third Suit Filed Against Panhandle Sour Gas Law

AMARILLO, Tex., Feb. 24.—Allegation that about 3,000,000,000 feet of natural gas in the Panhandle, more than 20 per cent of the total estimated reserve, has been produced in "a ruthlessly wasteful manner," is contained in a suit filed in Federal court here by Henry Schafer, Inc.

Mr. Schafer, president of the company, a resident of Delaware and owner of 11½ sections in Block 4, I.&G.N. Railway Survey, Carson County, and two and a half sections in Block 3, I.&G.N. Survey, Carson and Gray Counties, is seeking an injunction against Hagy, Harrington & March, operators of a 110,000,000-foot natural gasoline plant. The suit seeks a restraining order to prevent what he declares is drainage of the gas and oil reserve from under his property.

Estimate that at least half of the recoverable oil originally underlying the Panhandle reservoir will never be produced, due to dissipation of gas, is alleged in Schafer's bill. The estimated oil reserve of the Panhandle is fixed in the petition at 1,000,000,000 bbls. About 200,000,000 bbls. of the reserve crude has been withdrawn, but development of low-pressure areas where gas extraction has been most rapid is cited by Mr. Schafer as result of dissipation.

The complainant objects to the present Railroad Commission policy permitting gas well operators to produce up to 25 per cent of their capacity flow for purposes other than light and fuel, including use in manufacture of natural gasoline. He contends that the state constitution specifically prohibits the legislature from enacting laws that will waste or dissipate the natural resources of Texas. Mr. Schafer declares that more than 600,000,000 feet of natural gas is being blown into the air daily in the Panhandle and wasted, enough to supply the entire State's domestic demand. Panhandle gas is now yielding about 54/100 of a gallon per 1,000 feet of gas, but the operation extracts less than 3 per cent of its heating and lighting qualities, the complainant says in arguing that the present policy is wasteful.

START HANLON-BUCHANAN PLANT

FORT WORTH, Tex., Feb. 26.—Hanlon-Buchanan, Inc. is preparing to break ground for its new 8,000,000-foot natural gasoline plant on the Humble Oil & Refining Co. Bowless lease in the Ferguson Survey, near the Upshur County line in Gregg County. Pipe, ranging in size from 4-inch to 20-inch is on the ground or being rolled to form a gathering extending to close to 900 wells. Return lines of 2 to 8-inch are also to be laid back to the wells for repressuring. The plant and the laying of the lines is expected to be completed in 90 days.

Many of the wells to be connected are owned by the Humble Oil & Refining Co. C. E. Wharton is on the ground to supervise construction of the plant and H. J. DeLatin will have charge of the pipe line construction and operation.

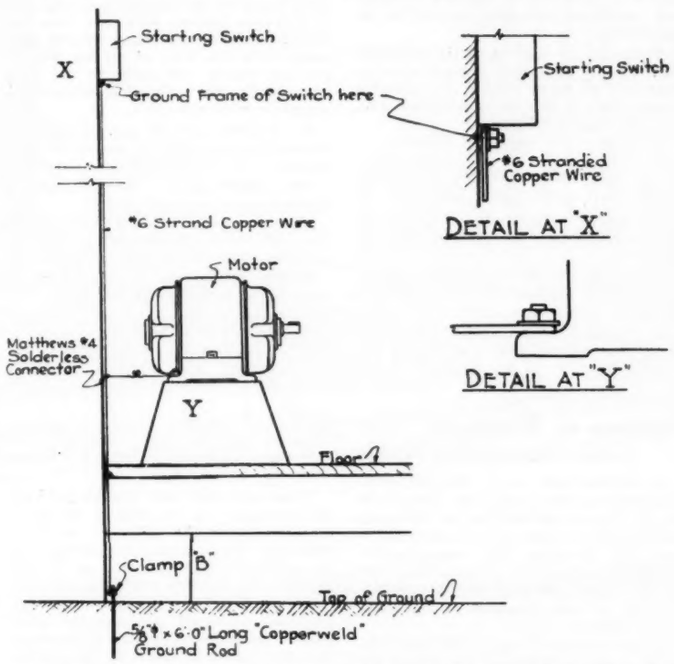
ROCK GAS TARIFF

OTTAWA, Canada, Feb. 24. — The Federal tariff board is hearing an application of the British Columbia Rock Gas, Ltd., for a downward revision of the customs duties on "rock gas." The applicants ask that this product, which is a liquefied petroleum gas imported in containers, be classified with gas imported via pipe line.

Practical Method for Grounding Motor and Hand Starting Switch Suggested

As part of a series of practical suggestions for the grounding of electrical equipment in gasoline plants and refineries, where every precaution must be taken to avoid sparks or flashes in the presence of oil vapors, A. J. Balcom, of the Magnolia Petroleum Co., has prepared the drawing herewith to show the manner in which a motor and starting box may be grounded most satisfactorily. Mr. Balcom invites critcisms and further suggestions on this or any of the suggestions if they are forwarded through The Oil and Gas Journal.

Suggestions previously made include the grounding of tank cars and tank trucks appearing on this page, issue of January 25. On February 1 the method of grounding conduits was discussed.



Number 6 strand copper wire should be used to ground motor and starting switch

Smith Brothers Want to Build Carbon Black Unit

Smith Brothers Refining Co. has completed its 120,000,000-foot natural gasoline plant near McLean in the Texas Panhandle and the company is now seeking permission to build a carbon black plant in order to utilize the residue gas from the gasoline plant.

J. M. McDonald, deputy supervisor for the Texas Railroad Commission in the Panhandle, has served notice that he will have a public reading of the application March 5 in his office in Pampa and at that time will consider any objections.

The erection of a carbon black plant is one solution of the problem now before those operators in the Panhandle who are dissipating large volumes of gas to the air. Pressure is being brought to bear against these plants through the courts but strong arguments are available on both sides of the question.

SECOND TURNER VALLEY PLANT

CALGARY, Alberta, Feb. 24.— Announcement has been made by A. H. Mayland, that as soon as the frost is out of the ground construction will begin on the new gasoline absorption plant of Independence Gas Producers, Ltd.

The plant will be erected on the property of Mercury Oils, Ltd., in Section 4-19-2w5, South Turner Valley. It will have a capacity of between 35,000,000 and 60,000,000 feet of gas daily and will utilize the gas from the Mercury and affiliated wells. The plant will also handle the production of other independent companies seeking an outlet.

The project is stated to be fully financed, and the plant should be in operation during the coming summer.

START HERCULES PLANT

The Hercules Gasoline Co. has just started operations in its gasoline plant located on the Gulf Production Co.'s Angus Spear lease just west of Kilgore in Gregg County. This is a four-unit plant but four more units will be installed immediately to bring the total capacity of the plant to 10,000,000 feet per day.

The company has 1,000 wells under contract to insure a sufficient supply of gas for the plant. L. J. Dales is superintendent of the plant.

Shamrock Will Enlarge 2 Plants in Panhandle Field

Officials of the Shamrock Oil & Gas Co. have announced plans for enlarging two casinghead gasoline plants in the Panhandle Field. The McKee plant in Moore County and the Clayton plant in Gray County are to be enlarged, the capacity of the former plant to be stepped up from 50,000,000 to 120,000,000 feet per day, and the latter plant to be increased as soon as the necessary gas is available. The McKee plant is manufacturing around 20,000 gallons of gasoline per day and the latter turning out around 15,000 gallons daily. Additional lines will be laid to both plants, and the expenditure will be in the neighborhood of $250,000.

The Moore County plant is operating on sour gas and is not acceptable to gas pipe lines serving commercial and domestic consumers.

EXPORTS TAKE SHARP DROP

Shipments of natural gasoline from the United States to foreign countries fell off sharply in December, the total being only 68,170 bbls. compared with 124,378 bbls. in November.

The Netherland West Indies was the principal importer of the product, the custom house at San Francisco clearing this material. The only other country to import the product from United States plants was Canada, which took 20,551 bbls.

The following table offers a comparison between the December and November shipments.

PURCHASES OF U. S. NATURAL GASOLINE

	December (bbls.)	November (bbls.)
France	.....	5,251
Canada	20,551	69,089
British West Indies	.....	224
Dutch West Indies	.....	49,824
Neth. West Indies	47,619	.....
Total	68,170	124,378
Value	$203,292	.....

CUSTOMS DISTRICTS THROUGH WHICH CLEARED

	December (bbls.)	November (bbls.)
Buffalo	2,978	1,597
Sabine	.....	52,827
Los Angeles	.....	49,824
San Francisco	47,619	.....
Florida	.....	244
Montana and Ohio	591	287
Dakota	2,307	5,566
Michigan	14,482	13,545
Duluth and Superior	193	388
Total	68,170	124,378

SEMINOLE PLANT FIRE

The Carter Oil Co. lost several tanks of natural gasoline and has found it necessary to make major repairs to its 90,000-gallon natural gasoline plant located in Section 15-9n-6e, in the Seminole Field of Oklahoma, as the result of a fire February 24, which also caused the death of a nearby resident.

Part of the equipment will be ready for operation before the end of this week and the full plant routine of operation is expected to start within the next three weeks.

FORD HEADS GAS PROPERTIES

Bernard Ford, vice president for Blyth & Co. of San Francisco, has been chosen president of the Natural Gas Corp. of Oregon and the Natural Gas Corp. of Washington. M. P. Griffiths, also of Blyth & Co., has been chosen vice president.

The properties include a number of liquefied gas distributing plants in the states of Oregon and Washington and were originally built by the Standard Oil Co. of California.

NEWS FOR PETROLEUM REFINERS

R. K. Davies to Head West Coast Cartel Committee

R. K. Davies, a director of the Standard Oil Co. of California, has been elected chairman of the administrative committee operating the oil marketing cartel on the West Coast. This committee is composed of seven members as provided for in the cartel. Those who represent

R. K. DAVIES

each of the three groups into which marketers have been divided comprise the administrative committee.

Members of Groups A and B which include the major companies and secondary outlets are represented by R. D. Mathews, executive vice president of the Union Oil Co., B. I. Graves, vice president of the Associated Oil Co., and Earl Miller of the Shell Oil Co. Group C, which includes the independent units, is represented by Arthur Taylor of the Western Oil & Refining Co., F. Reid of the Hancock Oil Co. and William Morgan of the R. R. Bush Oil Co.

Automobile Registrations Declined 438,157 in 1933

California and Texas alone among the 10 states registering more than one-half of the total number of operating motor cars in the United States showed gains for 1933 over 1932, according to recent compilations, and these gains were slight. The 10 states leading in automobile registrations showed a total decline for the one year of 282,275 motor vehicles, and the nation as a whole showed a decline of 438,157 in total registrations. California gained from 1,971,616 to 1,992,547, a total of 20,931. Texas gained 1,146 cars, from 1,191,324 to 1,192,470.

From an all time height of 26,545,281 motor car registrations the total dropped in 1932 to 24,161,556, and last year declined to 23,723,399.

Comparative registrations in the 10 states that accounted for the drop of 282,275 were as follows:

	1933	1932
New York	2,175,668	2,241,930
California	1,992,547	1,971,616
Pennsylvania	1,657,863	1,694,310
Ohio	1,546,405	1,589,524
Illinois	1,454,804	1,493,498
Texas	1,192,470	1,191,324
Michigan	1,071,952	1,134,803
New Jersey	841,285	857,850
Massachusetts	786,907	801,909
Indiana	771,403	796,815
Total	13,491,309	13,773,594

Precedent Is Established in Settlement of St. Louis Station Labor Controversy

Adjustment of differences between eight major oil companies in St. Louis and the employes of filling stations retailing their products, recently announced in that city, is regarded as a precedent in similar disputes where the Petroleum Labor Policy Board is called into the controversy. William M. Leiserson, chairman, and George W. Stocking, member of the Petroleum Labor Policy Board, served as mediators in assisting employes and employing companies in reaching an agreement.

Terms of the agreement fix minimum wages, hours and other terms of employment and set up machinery for collective bargaining and adjustment of disputes by conciliation and arbitration.

The text of the agreement follows:

Minimum Wages

(A) Service Station Employes:

1. Helpers with less than one year of service will be paid not less than $90 per month.

3. Helpers in service for a year or more will be paid not less than $95 per month.

3. Station operators will have a minimum guarantee of $110 per month, and in addition $5 per month where a second full-time helper is employed, and $2 per month for every additional full-time helper, and $1 per month for every additional relief or part-time helper.

4. Every filling station will have at least one man classed as a station operator and paid as above.

5. Part-time helpers of less than one year of service will be paid an hourly rate equal to the minimum hourly rate of full-time helpers with less than one year of service. Part-time helpers with more than one year of service will be paid an hourly rate equal to the minimum hourly rate of full-time helpers with a year or more of service.

6. Existing rates of pay, whether salaries or commissions, in excess of these minimum guarantees will not be reduced.

(B) Maintenance and Warehouse Employes:

Full-time maintenance and warehouse men will have the following minimum rates of pay:

Ninety dollars per month for warehouse men with less than one year of service, and $95 per month for those with more than a year of service.

(Continued on Page 41)

Refiners to Withdraw From Storage for Needs

WASHINGTON, D. C., Feb. 26.—The Planning and Co-ordination Committee has announced approval of the following withdrawals of crude oil from storage:

Sinclair Refining Co. and Sinclair Prairie Marketing Co., 375,000 bbls. during January, February and March for refining in their Houston and Marcus Hook refineries.

Socony-Vacuum Corp., 1,336,730 bbls. during January, February and March for refining in their Texas, California and Atlantic Seaboard refineries.

Taxman Refining Co., 95,833 bbls. for refining in its Wichita Falls, Tex., refinery.

Gulf Production and Gulf Refining Co., 885,000 bbls. during February and March for refining at their Port Arthur refinery.

Tide Water Oil Co., 400,000 bbls. during February and March for refining at its Bayonne, N. J., refinery.

Turman Oil Co., 52,000 bbls. during February and March for sale to the Wilcox Oil & Gas Co. to be refined at latter's refinery at Bristow, Okla.

Eason Oil Co., 59,000 bbls. during January and February for refining at its Enid, Okla., refinery.

A total of 5,106 bbls. daily during February and March from storage of the South Penn Oil Co. by Atlantic Refining Co., 548 bbls., Franklin and Pittsburgh, Pa.; Canfield Oil Co., 154 bbls., Coraopolis, Pa.; Continental Refining Co., 85 bbls., Oil City, Pa.; Elk Refining Co., 143 bbls., Falling Rock, W. Va.; Freedom Oil Works, 333, Freedom, Pa.; Oil Creek Refining Co., 154 bbls., Titusville, Pa.; Pennzoil Co., 1,113 bbls., Rouseville, Pa.; Pennsylvania Refining Co., 154 bbls., Titusville and Karns City, Pa.; Pure Oil Co., 171 bbls., Marcus Hook and Cabin Creek; Standard Oil Co. (New Jersey), 445 bbls., Claremont, N. J.; Wolverine Empire Refining Co., 235 bbls., Reno, Pa.; Tide Water Oil Co., 1,370 bbls., Bayonne, N. J.; Daugherty Refining Co., 188 bbls., Petrolia, Pa.; Star Light Refining Co., 13 bbls.; Karns City, Pa.

These approvals were conditioned upon the agreement on the part of the applicant to observe the orders of the Planning and Co-ordination Committee and the petroleum administrator as to production and refinery practices, and that if the applicant can purchase currently produced crude oil economically available to his refinery, he will so purchase, and that in such event he will reduce the amount of withdrawals from storage so allowed by an amount equal to the quantity of such purchase.

Sunray Orders New Dubbs Cracking Unit at Allen

The Sunray Oil Co. has given the Foster Wheeler Corp. the contract for the erection of a 1,200-bbl. Dubbs cracking unit in its 6,000-bbl. refinery at Allen, Okla. C. H. Wright, receiver for the Sunray, has specified that construction be started at once and completion of the plant for operation has been planned for July 1. The company has been operating the plant as a skimming unit specializing in the manufacture of asphalts and road oils. The completion of the Dubbs unit will permit expansion of the sale of motor fuels of high octane value.

NEW REFINERY IN JAPAN

A Japanese company, known as Toyo Sekiyu Kaisha, has obtained a license to erect a refinery in the neighborhood of Kanagawa. It is reported that this company is affiliated with the North Sakhalin Petroleum Co. The capital will be 1,000,000 yen, of which half will be paid in. It is proposed to refine crude oil for the production of petrol and lubricating oils; and the capacity of the refinery is intended to be 2,400,000 gallons. The company has also acquired a location at Tsurumi, near Yokohama.

Will Build 1,000-Barrel Phenol Treating Plant

NEW YORK, Feb. 26.—The Standard Oil Co. of New Jersey is clearing a site at its Bayonne, N. J., refinery preparatory to the construction of a 1,000-bbl. phenol treating plant for the manufacture of special grades of lubricating oils. The plant will be the first built in the United States.

The phenol treating method of manufacturing all grades of lubricants was developed at the Sarnia, Ontario, Canada refinery of the Imperial Oil, Ltd., a subsidiary of the Standard Oil Co. (New Jersey). The Sarnia plant, which has a capacity of 2,000 bbls. daily, has been in operation for the last three years. Last year a unit was installed at the Port Jerome, France, refinery of the Standard Franco-Americaine de Raffinage which is owned by the Standard of New Jersey, Atlantic Refining Co. and Gulf Oil Corp.

The phenol treating unit is one of several solvent treating methods which has been made available to the refining industry over the last two years. The phenol method briefly described as operated at the Sarnia refinery, provides for the treatment of preheated oil with anhydrous phenol (carbolic acid) the two passing counter-currently through a treating system consisting of seven Leaver mixers and seven settling drums with necessary attendant equipment. The phenol is recovered from the treated oil which is further refined to meet specifications required.

The treating unit at the Bayonne refinery will be a two-story building 100 feet long, 30 feet wide and 30 feet high. Two groups of atmospheric and vacuum distillation units will be installed. One group is for dephenolizing the finished oil and the other for recovering phenol.

To provide a site for the plant the company will dismantle its No. 2 boiler house, which has not been in service since 1930. This boiler house is 410 feet long with three 128-foot stacks.

British American Will Enlarge All Operations

COUTTS, Alberta, Feb. 24.—Following the acquisition by the British American Oil Co. of the Northwest Stellarene Co.'s refinery here, the purchasers are planning to materially extend their refining operations in western Canada.

The Stellarene plant will be operated to its full charging capacity of 2,000 bbls. a day, and the charging capacity of the topping plant at Moose Jaw, Saskatchewan, will be increased to 3,000 bbls. The extended refining operations will, it is estimated, mean a daily increase of 3,000 bbls. in the market for Rocky Mountain crudes.

J. W. Johnson, formerly manager of the Stellarene company, has been employed by the British American Oil Co. to contract for crude from the Montana fields. He will be in charge of crude purchasing contracts taken over from the Stellarene company by the British American company. The list includes contracts with the Montana Power Gas Co., Roy C. Tarrant, Nadeau Brothers and other Cut Bank operators. It is anticipated that the British American company will require approximately 2,000 bbls. more of crude than the Montana fields can furnish at the moment, with the result that shipments will be taken from the Wyoming fields. The increased demand is likely to stimulate renewed activity in the Cut Bank and adjacent producing areas, as well as on the Alberta side.

THERE IS A TIMKEN TUBE FOR EVERY TYPE OF REFINERY SERVICE

NO MATTER what your refinery tube requirements may be—high creep strength, corrosion resistance, high pressure capacity or any combination of them—you will be assured of maximum service and economy with Timken tubes.

Timken refinery tube steels include all the standard formulas and special analyses developed by Timken metallurgists for specific purposes where standard steels would not measure up to Timken performance standards.

But remember, there is more behind Timken success in refinery tubes than steel formulas. It takes correct steel plus Timken manufacturing methods, equipment and quality control system to produce Timken results.

You have everything to gain and nothing to lose by trying Timken refinery tubes. Why not try them on your next order?

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ELECTRIC FURNACE AND OPEN HEARTH - ALL STANDARD AND SPECIAL ANALYSES

NEWS FOR SALES DEPARTMENTS

Farms and Fisheries Get Small Part of Tax Refund

RICHMOND, Va., Feb. 26.—Farmer and fisher folk, in whose name the legislature of Virginia has provided for tax-exempt gasoline sales, actually receive only 40 per cent of the refund, according to a compilation made for 1933 when the State turned back to purchasers of gasoline the amount of the tax collected on a total of 11,200,000 gallons of motor fuel.

Study of the table of refunds for past years reveals also that the total amount of gasoline tax revenues turned back to original purchasers under the law providing that gasoline sold for purposes other than propelling vehicles on a state highway shall be relieved of the tax, has risen in greater proportion than the gallonage tax rate.

Since 1923, when the tax was 3 cents a gallon, until now, when it is 5 cents, the total amount of refunds has risen about 600 per cent.

Under the Virginia classification of refunds beneficiaries during 1933 were tractors, boats, airplanes, stationary engines, contractors, railroads, cities, cleaners and miscellaneous. Farmers were credited with the purchase of 2,500,000 gallons of tax-free gasoline, while boats used in commerce and fishing and for pleasure along Virginia's long coast line and numerous coastal waterways consumed 2,000,000 gallons. Stationary engines with 1,700,000 gallons and contractors credited with 1,400,000 gallons followed. A table showing the gallonage consumed and the percentages of refund received by the various beneficiaries follows:

	Gallonage	Percentage
Tractors (farmers)	2,500,000	22
Boats (fishermen)	2,000,000	18
Airplanes	700,000	6
Stationary engines	1,700,000	15
Contractors	1,400,000	12
Railroads	700,000	6
Cities	1,300,000	11
Cleaners	500,000	4
Miscellaneous	400,000	3
Total	11,200,000	

Suit Declares "Dividends" Are Rebates to Customers

DENVER, Colo., Feb. 24.—A suit which may become an important test of provisions of the NRA marketing code was filed in the Federal District Court in Denver this week by U. S. District Attorney Ivor O. Wingren, against the Western Specifications Oil Co., Inc., alleging violation of the fair practice code. The action seeks an injunction restraining the defendant from certain activities which offer a unique case.

The company operates a service station in Denver and sells its gasoline and lubricating oils at the prevailing retail prices. The complaint alleges that it makes rebates to customers of 2 cents per gallon on gasoline and 11 cents per quart on lubricating oils. The violations began, it is alleged, on September 25, 1933, by not posting conspicuously at its place of business the prices of its products and giving rebates. The complaint sets forth that such practices interfere with the normal flow of interstate commerce, since the company imports into the state the products it sells. By price cutting the company compels other filling stations to resort to the same practice.

The company sells what is known as "Class B" stock and the holders receive dividends in proportion to the quantity of oil and gasoline they purchase. The Government alleges that these "dividends" are rebates to customers.

Increased Demand for Fuel Oil Seen as Result of New Streamlined Trains

Development by railroads of high-speed, light-weight, streamline motor trains is of lively interest to the oil industry, for it promises to afford an important outlet for some of its refined products. The Chicago, Burlington & Quincy and the Union Pacific railroads already have allowed the public to see these trains of tomorrow which their engineers, aided by experts in various lines, have created.

The Union Pacific's aluminum train and the Burlington's stainless steel train each consists of three cars, with space for mail, baggage, express and a buffet section. The accompanying picture shows the Burlington's travel innovation, the Zephyr, a silvery shaft 196 feet long.

The Zephyr is driven by electric power generated by an eight-cylinder, 600-horsepower, two-cycle Diesel engine that uses heavy oil as fuel, Diesel oil, nonexplosive. The engine was developed by the Winton division of General Motors. Without spark plugs or ignition system of the sort used in gasoline engines, combustion is accomplished wholly through compression.

The forward car contains engine room and compartments for the handling of mail and baggage. The second includes an area for express matter in addition to a buffet and coach accommodations set apart for smokers. The main body of the car is devoted to coach seats and de luxe chairs occupy the circular, glass-enclosed solarium in the rear.

All the windows are equipped with shatter-proof glass including the bullet-shaped front of the first car and the rear of the last car which thus afford the driver up ahead and the occupants of the lounge parlor a 180-degree field of vision, a safety factor as to the prow and a broader horizon for the passengers back in the sun parlor.

The Burlington several years ago reduced the weight of its branch-line and secondary main-line passenger trains by substituting gasoline-electric motor cars for the old equipment and the almost obsolete small steam locomotive. Adoption of the Diesel engine, with oil as its fuel, was the next step. It is said the railroad company plans to put the new train into service between Kansas City, Mo., and Omaha and Lincoln, Neb.

"We expect to make 506 miles per day with this train with a fuel consumption of 295 gallons, or at a fuel rate of .583 gallon per mile," said O. E. Ward, superintendent of motive power for the railroad. "The train is designed to negotiate a 21-degree curve."

The Union Pacific's new 110-mile-an-hour train resembles a huge airplane fuselage from its blunt nose to its tapering, fin-like tail. This 600-horsepower day-coach passenger train, weighing 85 tons, the weight of just one modern sleeping car, is 204 feet 5 inches long.

The engine used by the Union Pacific train is the same as that in the Burlington's. The fuel oil used by the engines of both trains has the following specifications: Viscosity at 100° F., not less than 34 seconds; gravity, 25 to 36 degrees Baume; sulphur, not more than 1 per cent; not less than 10 per cent shall distill below 460° F.; not less than 90 per cent shall distill below 675° F. It is estimated that about 162,000 gallons of this fuel will be consumed annually by each of the new trains.

Supply of Co-operatives Not to Be Shut Off Under Code

President Roosevelt has ruled that no NRA code of fair competition shall be so construed or applied as to make it a code violation to sell to or through any bona fide and legitimate co-operative organization, including farmers' co-operatives, or to sell through any intervening agency to such co-operative organization.

The order is to clarify questions that have arisen concerning the scope and meaning of a previous executive order (No. 6,355, of October 23, 1933) defining the effect of certain provisions in codes of fair competition upon co-operative organizations.

The order states also that no code shall be so construed or interpreted as to prevent any such co-operative organization from being entitled to receive and/or distribute to its members as patronage dividends or otherwise the proceeds or benefits directly or indirectly derived from any discount, commission, rebate, or dividend (a) ordinarily paid or allowed to other purchasers for purchases in wholesale or middlemen quantities or (b) paid or allowed pursuant to the requirement or provisions of any code of fair competition to other purchasers for purchases in wholesale or middleman quantities.

The administrator for industrial recovery is authorized by this executive order to determine, after such hearings and proceedings as he may deem necessary, whether in any doubtful case an organization is a bona fide and legitimate co-operative entitled to the benefits and protections of this order.

Indiana Cuts Tank Wagon and Raises Station Prices

CHICAGO, Feb. 23.—Tank wagon prices of gasoline were reduced 1 cent today and service station prices were advanced 1 cent by the Standard Oil Co. (Indiana) throughout its marketing territory, thus giving dealers a larger margin of profit. The following announcement was made by the company:

"Standard Oil Co. (Indiana) will advance service station or retail gasoline prices on Friday, February 23, 1 cent a gallon, and lower its tank wagon or wholesale prices 1 cent a gallon. This action involves a long-deferred adjustment of service station prices to bring them more nearly into line with increased costs. The lowering of the tank wagon price is to establish it on the basis recently prescribed by the Planning and Co-ordination Committee under the oil code. The tank wagon price has previously been the same as the service station price, but quantity buyers have been allowed a discount from it."

R. R. Risser to Be Special Representative for Conoco

R. R. Risser, formerly assistant division manager of Conoco Oil Co., Chicago, subsidiary of Continental Oil Co., has been named special sales representative for Continental, it is announced by E. S. Karstedt, vice president in charge of marketing.

Assigned to the general offices in Ponca City, Okla., Mr. Risser will contact purchasers of bright stocks and blended oils in the Kansas City, Lincoln and Chicago divisions, embracing Kansas, Missouri, Nebraska, Iowa, North Dakota, South Dakota, Illinois, Indiana, Kentucky, Michigan, Minnesota, Wisconsin and Ohio.

Increase in Artificial Lift Installations and Drilling Operations in the Fields of Venezuela

By F. HULSMEIER
Venezuela Gulf Oil Co.*

The increase in drilling activities in Venezuela continued, and 130 wells were completed in 1933 as compared to only 60 completed during 1932. Notwithstanding these new wells, 114 of which were producers, and also the appreciable increase in artificial lifting installations during the year, Venezuelan production was maintained at only a slightly higher level than in 1932, amounting to 120,356,000 bbls. in 1933 as compared to 118,167,000 bbls. in 1932. However, at the end of the year the daily average production of 358,860 bbls. was 16 per cent higher than that at the end of 1932. Exports from Venezuela recorded an increase of approximately 4 per cent, totaling 119,388,000 bbls. during 1933 as compared to 114,567,000 bbls. during 1932. Oil in storage in Venezuela decreased approximately 47 per cent, from 7,023,000 bbls. at the end of 1932 to about 3,693,000 bbls. at the end of 1933.

Lake Maracaibo Basin

Bolivar Coastal Fields: (Including La Rosa, Punta Benitez, Tia Juana, Lagunillas and Bachaquero—situated on the eastern shore of Lake Maracaibo in the district of Bolivar, state of Zulia).—Production from this group of fields amounted to 83,775,000 bbls., or 70 per cent of the total for Venezuela during 1933. This represented a decrease of 3 per cent under the 1932 figure; however, at the end of 1933, the fields had a daily average production 24 per cent higher than at the end of 1932, this average being 252,040 bbls. as compared to 212,491 bbls. at the end of 1932. Of the total production obtained from these fields in 1933 approximately 6,000,000 bbls. was recovered from new wells completed during the year. The Tia Juana and Bachaquero wells remained closed in, but practically all other "closed in" producers were opened to production during the year.

The number of gas-lift wells decreased by 45 as compared to the end of 1932 due mainly to the decline in high-pressure gas production. There was an increase of 99 pumping wells due primarily to the initiation of pumping on a large scale in the Lagunillas Field, where, at the end of 1933, there were 83 pumping wells producing compared to only 7 at the end of 1932.

The advance of the edge water in the southern part of the Lagunillas Field has been partly controlled by continuous repair work in wet wells, but the percentage of water in the oil production is steadily increasing, and treating of wet oil, which has been in the experimental stage for the past two years, will become necessary on a much larger scale in the future.

Mene Grande Field: (District of Sucre, state of Zulia).—Production from this field during 1933 showed a decline of approximately 4 per cent under the 1932 figure; however, at the end of the year the daily average production of 39,110 bbls. was 3,600 bbls. higher than at the end of 1932. Drilling was resumed in October with two drilling strings and two wells were completed by the end of the year.

Concepcion and La Paz Fields: (District of Maracaibo, state of Zulia).—Drilling was resumed in the Concepcion Field during the early part of the year but was again discontinued in September, after the completion of only two wells, both of which were producers. Production was maintained at approximately the same level as in 1932, yet at the end of 1933 the daily average production of the field at 6,120 bbls. was 7 per cent higher than at the same time in 1932. This increase is due entirely to the production being obtained from the two new wells. No new drilling was done in La Paz Field and production showed a decrease of approximately 33 per cent under the 1932 figure, while the daily average at the end of 1933 at 685 bbls. was 25 per cent less than at the end of 1932.

Rio Tarra and Los Manueles Fields: (District of Colon, state of Zulia).—Two new wells were drilled in the Rio Tarra Field during 1933, but at the end of the year these wells were reported as testing and it is probable that they will be deepened before they are considered as final completions. Production remained at approximately the same level as during 1932; however, at the end of the year the daily average production was 25 per cent higher than at the end of 1932. Three new wells were completed in Los Manueles Field during the year. Although the 1933 production for the field showed an increase of 40 per cent over that of 1932, the daily average at the end of the year was 25 per cent lower than at the end of 1932.

Other Fields.—No additional drilling was done in the Netick Field located in the district of Mara, state of Zulia, and the two producing wells of the field remained closed in during the year. This field has a potential production of 500 bbls. of 24° Be. daily. The Totumo Field, in the district of Perija, state of Zulia, with a potential production of 2,300 bbls. daily, likewise remained closed in throughout the year.

Wildcats.—There were no wildcat test wells drilled in the Maracaibo Lake Basin during 1933.

State of Falcon

El Mene Field: (District of Buchivacoa, state of Falcon).—No additional drilling was done in this field during 1933 and production showed a further decline of 25 per cent under that of 1932. Production continues to be almost entirely dependent on artificial methods.

Media Field: (District of Buchivacoa, state of Falcon).—Exploratory drilling was carried out in this field during the entire year, but results were very disappointing. Out of 11 wells drilled, only three were completed as producers and one as a high-pressure gas well. Production for 1933 showed an increase of 20 per cent over that for 1932, but at the end of 1933 the daily average production of 1,050 bbls. was 55 per cent less than at the end of 1932. Gas repressuring was tried out in this field during the early part of the year but was abandoned, in as much as it was found that it served only to increase the gas-oil ratio and had no effect in increasing the production nor in slackening the very high rate of decline.

Cumarebo Field: (District of Zamora, state of Falcon).—Development in this field continued during 1933 and 16 new producing wells were completed for an average initial production of 1,050 bbls. Five drilling strings were in operation during the early part of the year, but in December only two were active, one of which was engaged in drilling a deep test in the central portion of the field. Production for the year amounted to 4,982,000 bbls. as compared to 2,055,000 bbls. produced during 1932; however, active exploitation in this field was not undertaken until the middle of 1932 and therefore the figure for that year does not represent a complete year's production. The daily average rate of 14,390 bbls. at the end of 1933 representing approximately 85 per cent of the field's present capacity was slightly less than the daily average recorded during December, 1932. A compressor station was completed at Cumarebo in March, 1933, and since that time gas repressuring has been carried out continuously, and at the end of the year four wells were being used for the introduction of gas into the formation.

El Mene de Acosta Field: (District of Acosta, state of Falcon).—Drilling was suspended in this field in April, 1933. Only two wells were completed during the year, one of which was a small producer. Production showed a further decline of approximately 20 per cent under the 1932 figure.

Other Fields.—The Urumaco Field, with a potential production of 2,000 bbls. daily, situated in the district of Democracia, state of Falcon, and Las Palmas Field, with a potential production of 900 bbls. daily, situated in the district

(Continued on Page 41)

SUMMARY OF DRILLING OPERATIONS IN VENEZUELA DURING 1933

Fields—	Wells completed — Total to end of 1933 Prod.	Dry	During 1933 Prod.	Dry	Abandoned during 1933 producers	Average depth of wells drilled	Active drilling operations at end of 1933 In prod. fields	Wild-cats
La Rosa	922	36	38	0	18	1,693	1	..
Punta Benitez	44	3	0	0	0	.....	0	..
Tia Juana	10	2	0	0	0	.....	0	..
Lagunillas	642	4	36	0	6	2,053	3	..
Bachaquero	3	0	0	0	0	.....	0	..
Cumarebo	36	5	16	5	0	1,732	2	..
El Mene	186	99	0	0	86	.....	0	..
El Mene de Acosta	41	39	1	1	17	1,318	0	..
Guanoco	16	6	0	0	1	.....	0	..
Hombre Pintado	3	2	0	0	0	.....	0	..
La Concepcion	101	1	2	0	0	3,542	0	..
La Paz	30	3	0	0	1	.....	0	..
Las Palmas	8	5	0	0	0	.....	0	..
Los Manueles	12	1	3	0	0	3,997	1	..
Media	11	11	3	8	3	3,959	2	..
Mene Grande	229	7	2	0	7	2,734	2	..
Quiriquire	57	6	9	1	0	2,796	4	..
Rio Tarra	65	13	2	0	0	3,418	1	..
Totumo	12	1	0	0	0	.....	0	..
Wildcats:								
Maracaibo Basin	13	108	0	0	0	.....	..	0
State of Falcon	5	55	0	2	0	5,555	..	0
Eastern Venezuela	5	24	3	0	0	3,202	..	3
Total	2,451	431	115	17	139	2,550	16	3

DISTRIBUTION OF PRODUCTION ACCORDING TO PRODUCTION METHODS AT THE END OF 1933, BOLIVAR COASTAL FIELDS

Production method—	No. of wells	Daily average production, bbls.	Percentage of total production	Average production per well per day, bbls.
Flowing	369	121,471	48.20	329
Gas-lift	179	73,455	29.14	410
Pumping	292	57,114	22.66	196
Total	840	252,040	100.00	300

SUMMARY OF PRODUCTION IN VENEZUELA DURING 1933

Fields—	Age, years	Area proven acreage*	Oil production — To end of 1933	During 1933	During 1932	Daily average Nov., 1933	Average gravity of oil deg. Be.	Status productive wells end 1933 — Flowing	Pumping	Air gas lift	Total producing	Not producing	Total
La Rosa	11	19,000	220,434,000	23,330,000	23,600,000	61,740	18–28	146	209	93	448	456	904
Punta Benitez	8	3,600	6,022,000	1,896,000	760,000	5,530	16–28	17	0	0	17	27	44
Tia Juana	6	4,000	29,000	.....	.....	.....	15–17	0	0	0	0	10	10
Lagunillas	8	16,700	432,793,000	58,549,000	62,112,000	184,770	14–21	206	83	86	375	261	636
Bachaquero	4	3,700	36,000	.....	.....	.....	12	0	0	0	0	3	3
Cumarebo	2	200	7,058,000	4,982,000	2,055,000	14,390	45–50	24	0	0	24	12	36
El Mene	11	900	18,157,000	889,000	1,169,000	2,280	37	2	44	51	97	3	100
El Mene de Acosta	5	100	679,000	94,000	116,000	210	41–45	0	20	0	20	4	24
Guanoco	9	30	1,718,000	.....	.....	.....	10.5	0	0	0	0	15	15
Hombre Pintado	6	100	153,000	15,000	22,000	35	28	1	0	0	1	2	3
La Concepcion	9	1,000	14,176,000	2,165,000	2,173,000	6,120	35	9	56	4	69	32	101
La Paz	9	200	3,086,000	281,000	423,000	685	27.5	2	1	2	5	24	29
Las Palmas	6	40	165,000	.....	.....	.....	34	0	0	0	0	3	3
Los Manueles	4	400	10,951,000	4,265,000	3,120,000	9,720	33	10	0	0	10	2	12
Media	3	50	1,714,000	802,000	839,000	1,050	44.5	6	0	1	7	1	8
Mene Grande	19	4,900	126,614,000	13,066,000	13,548,000	39,110	16.5 & 29.5	33	0	58	91	131	222
Quiriquire	7	6,500	16,078,000	6,698,000	4,969,000	22,320	17–19	33	5	0	38	19	57
Rio Tarra	12	800	16,786,000	3,324,000	3,384,000	10,400	33	10	9	0	19	46	65
Totumo	6	700	148,000	.....	3,000	.....	21	0	0	0	0	12	12
Others:													
Maracaibo Basin	..	.....	402,000	.....	74,000	.....	.....	....	....	....	....	13	13
State of Falcon	..	.....	233,000	.....	.....	.....	.....	....	....	....	....	5	5
Eastern Venezuela	..	.....	7,000	.....	.....	.....	.....	....	....	....	....	5	5
Total	..	62,920	877,439,000	120,356,000	118,167,000	358,860	.....	499	427	295	1,221	1,091	2,312

*Before A.I.M.E., New York, Feb., 1934.

*Most fields not fully defined; these figures for comparative purposes only.

Aerial Topographic Mapping Speeded by Use of European System With Stereogram Pictures

By GILBERT P. MOORE

Accurate maps are vitally essential tools of most departments of the modern oil company. Geological maps determine the future drilling activities of practically every company. Production maps of the oil fields enable the production department to check development progress and to forecast future production figures. Other maps permit the pipe line department to select the routes for new pipe lines to carry the oil and gas to market and to locate the sites of the numerous pumping stations along the line.

These maps must be accurate. Many an anticline which has produced thousands of barrels of oil has been shown to have a maximum uplift of from 10 to 20 feet. By a single error in mapping this underground reservoir of mineral wealth might have been passed over. On the subsurface maps of the production department the elevations of the mouths of the wells in a field are of the utmost importance for from these elevations are measured the depths to each of the key strata encountered in the wells and from these data the underground structural contour maps are prepared. Errors in this procedure alone may mean enormous losses.

Certain overnight developments in the oil business, such as the bringing in of a producing well in wildcat territory, may create a sudden demand for accurate surface maps on which to plot ownership holdings or to direct geological examinations in the surrounding areas. Speed becomes the essential factor at this stage and the first operator to provide himself with accurate maps is more than likely to gain the largest share of the profits.

New Method

A new method of speedy and extremely accurate map making has recently been brought to the United States from France where it was developed and perfected by L'Aerotopographie, S. A. It is knows in the country as "L'Aero System." It is based on aerial photography but represents an advance over former aerial survey methods. By means of "L'Aero System" pairs of oblique aerial glass negatives are quickly reduced to line maps to any scale in two or three dimensions. Topographic contour maps on any scale with any contour interval may be produced from these negatives within a few hours. And what is even more astounding, topographic profiles along any selected lines can be prepared just as readily without the necessity of first preparing the complete contour map.

These maps and profiles have an amazing accuracy. The system at present depends on topographic ground control and by its use the maximum error to be found in maps of L'Aero System is guaranteed to be not more than two-tenths of a millimeter to the scale. In other words, if the scale of the map is 1:5000, the maximum error will not exceed one meter or 40 inches. This applies to vertical elevations. Horizontal in accuracy will be no greater than the drafting errors. No such accuracy has ever been available before by any method short of geodetic survey which is extremely complicated and takes a long time to carry out.

There is not a single mathematical calculation involved in "L'Aero System" except those involved in laying out the ground control and bringing the two negatives into coalescence for restitution. This step alone eliminates many hours and days of human labor at computation in which the possibility of error is constantly present. All of the steps of the "L'Aero System" are mechanical and consequently the human equation with its possibility of error is almost entirely absent.

By means of this system of mapping accurate topographic contour maps can be prepared at a very low cost and in a comparatively short space of time with a minimum amount of ground control. It will bring about an entirely new technique in the geologic exploration of areas where the geological structure is sufficiently pronounced to be visible from the air.

Example of Use

Let us assume that an area of large extent in the interior of one of the South American Republics is held on concession by an oil company. Very little is known of the geology of the region in question and there are no accurate maps available for no true surveys have ever been made there. Speed in the examination and mapping of the area is an important factor since the exploratory period is usually limited under the laws of the country and a final selection or territory must be made in from two to three years. By using "L'Aero System" the procedure for the examination of the area would be somewhat like this:

A photographic plane and crew carrying a single geologist as observer and director starts a systematic series of flights designed to cover the entire area to be studied. As he is flown along above the territory, the trained eyes of the geologist observe in the topography of the district the indications of an anticlinal uplift or other geological feature bearing on his problem. He instructs the photographer to begin taking photographs and advises him when to stop. The flights continue and other similar areas are similarly photographed.

On the return to the flying base the negatives (they are always in pairs) are developed and a rough mosaic of contact prints is laid. The geologist studies this and directs that topographic profiles be prepared across the structures along lines where key beds may be identified in the photographs. The matching pairs of photographic negatives are placed in an instrument called a "restitution machine" which after about 15 minutes manipulation brings both negatives into perfect coincidence at a definite scale and furthermore corrects any distortion in the negatives due to tilt, twist or deformation. Then by a special process the elevations of the topography along the selected line are determined. Thus an approximate profile is obtained on which the geologist may plot his stratigraphic observations and determine the conformation of the structure along the profile. A few of these profiles (made at this preliminary stage without ground control and therefore only accurate within say 10 per cent plus or minus) are then made at difinite locations whose relative positions may be approximately scaled from the rough mosaic, They are, however, sufficient to outline roughly the structure.

It should be noted that no ground survey work has been done as yet and that all elevations are with respect to an arbitrarily selected point of an assumed elevation. Yet the relationships shown on the profile are absolutely correct within the area of the various matched pairs of negatives. The map in this stage is only a rough approximation of the area, but comparatively little need be done to furnish the ground engineering control necessary to permit the completion of an extremely accurate map. Let us see what needs to be done.

Next Step

After previous study of the rough mosaic an engineering party, or parties, is sent into the area to set up a triangulation system covering the whole region. The stations of this system may be miles apart and will be located on prominent features of the topography, probably on the hill tops where vision over long distances is unobstructed. They know beforehand that two control points must appear in each pair of matching photographs and these points have been selected by previous study of the con-

(Continued on Page 42)

One of a pair of photographs made by the L'Aero System Codastro camera. Scale approximately 1/10,000

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Analyses of Typical Crude Oils From East Texas and From Neighboring Fields in That State

Summarized data have been prepared by the U. S. Bureau of Mines giving the results of analyses of 24 representative samples of crude oil from the East Texas Field and neighboring fields of Texas. All but two of the samples were obtained from wells producing from the Woodbine sand. One of these two samples is from the shallow production of the Van Field; the other is from the Powell Field. These two samples are examples of production from the Nacatoch sand in areas where the bulk of the production is obtained from the Woodbine.

This summary, prepared by E. L. Garton and R. E. Thurn, Petroleum and Natural Gas Division, U. S. Bureau of Mines, augments Report of Investigations 3,130, published in August, 1931, which gave four typical analyses of East Texas crudes. The detailed results of the distillation analyses by the Bureau of Mines Hempel method for all of the samples are available for public reference in the files of the U. S. Bureau of Mines, Washington, D. C., and the Petroleum Experiment Station of the bureau, Bartlesville, Okla.

The East Texas crude oils are produced from the Woodbine sand at an average depth of approximately 3,600 feet. The Bureau of Mines has collected samples from representative wells in the field since its early development. In the following brief discussion and tables, the analyses are summarized and are compared with analyses of other oils produced in Texas from the Woodbine sand and with analyses of two samples from the Nacatoch sand.

Discussion of Results

Table 1 indicates some of the physical and chemical properties of crude oils from Woodbine sand wells in Texas. Two samples from the Nacatoch sand are included for comparison. Table 2 contains data upon which is based the classification of crudes according to "base."

A study of the entire series of East Texas crude oil analyses show that there is very little variation in either the physical or chemical properties of the samples although they were collected in all parts of the area. All are classed as "intermediate-base crudes." The gravities range from 38.6 to 41.5 degrees A.P.I. with an average of 39.9 degrees A.P.I. The sulphur content varies from 0.19 to 0.33 per cent and averages 0.26 per cent. The viscosity at 100° F. ranges from 49 to 47

TABLE 1—DATA SHOWING SOURCES OF SAMPLES AND SOME OF THE FIGURES INDICATING PHYSICAL AND CHEMICAL PROPERTIES

Sample No.	Field—	County	Formation	Total depth (feet)	Properties of crude: Gravity (deg. A.P.I.)	Sulphur (%)	Viscosity at 100° F.	Pourpoint	Gasoline fraction: Per cent	Deg. A.P.I.	Viscosity at 100° F. of vacuum fractions: 225-250° C.	250-275° C.	275-300° C.	Carbon residue of residuum
31,061	Van	Van Zandt	Woodbine	2,710	32.4	0.89	56	Below 5	24.6	61.0	62	93	175	10.0
33,118	Van	Van Zandt	Woodbine	2,902	34.8	.86	54	Below 5	26.6	63.7	62	100	185	10.2
33,119	Van	Van Zandt	Woodbine	2,914	34.2	.90	62	Below 5	25.6	62.6	61	91	170	8.5
33,120	Van	Van Zandt	Woodbine	2,966	32.8	1.02	57	Below 5	23.8	63.7	63	100	195	13.9
33,121	Van (shallow)	Van Zandt	Nacatoch	1,251-1,277	20.3	1.42	250	Below 5	....	....	73	120	250	10.4
26,586	Nigger Creek	Limestone	Woodbine	2,840-2,842	40.0	.27	42	Below 5	36.9	62.9	65	97	195	8.6
24,913	Powell	Navarro	Woodbine		38.2	.24	41	20	28.4	60.8	66	100	210	9.9
26,511	Powell	Navarro	Nacatoch	875-1,011	31.3	.26	57	Below 5	17.4	54.0	66	99	175	8.7
27,332	Boggy Creek	Cherokee	Woodbine	3,842-3,849	40.6	.29	40	5	36.2	62.1	57	80	145	6.4
259	Richland	Navarro	Woodbine	2,980	40.6	.26	39	Below 5	33.0	60.2	61	100	190	10.2
24,914	Richland	Navarro	Woodbine	2,950-2,987	39.2	.25	40	20	30.8	62.6	65	120	240	12.1
24,915	Richland	Navarro	Woodbine	.....	38.4	.24	42	15	26.6	60.2	65	100	150	10.5
260	Richland Extension	Navarro	Woodbine	2,965-2,968	38.0	.26	43	20	29.6	59.5	51	120	190	9.7
24,916	Wortham	Limestone	Woodbine	2,962-3,004	39.8	.21	40	10	29.9	54.9	58	80	120	7.4
24,932	Wortham	Limestone	Woodbine	2,961	39.0	.19	40	10	26.0	54.7	61	89	160	9.1
24,933	Wortham	Limestone	Woodbine	3,015	39.6	.19	39	15	30.1	55.4	63	89	155	11.0
25,008	Wortham	Limestone	Woodbine	3,015	40.0	.21	38	5	31.5	55.9	63	105	190	11.5
244	Mexia	Limestone	Woodbine	3,000-3,100	35.6	.19	56	20	17.3	52.7	63	92	170	9.9
32,332	East Texas	Gregg	Woodbine	3,498-3,514	40.0	.24	39	45	35.3	62.6	58	83	140	6.7
32,330	East Texas	Gregg	Woodbine	3,550-3,578	39.8	.21	40	45	35.6	61.5	58	87	150	6.9
31,065	East Texas	Gregg	Woodbine	3,587	38.4	.26	41	30	35.0	59.5	55	80	130	6.7
32,328	East Texas	Gregg	Woodbine	3,593-3,653	41.3	.26	39	30	35.3	62.6	58	83	140	7.1
31,063	East Texas	Rusk	Woodbine	3,536-3,592	38.6	.28	40	25	35.8	60.2	55	81	130	6.6
31,064	East Texas	Rusk	Woodbine	3,640-3,652	40.0	.29	40	25	36.0	61.0	55	85	140	7.9
32,337	East Texas	Rusk	Woodbine	3,627-3,655	39.8	.24	41	30	35.8	62.9	58	85	150	8.7
32,336	East Texas	Rusk	Woodbine	3,672-3,720	39.8	.25	39	45	35.8	62.6	58	83	145	8.9
32,335	East Texas	Smith	Woodbine	3,696-3,702	39.8	.24	41	50	35.5	63.1	60	89	150	10.3
32,327	East Texas	Upshur	Woodbine	3,679-3,702	40.6	.24	40	30	35.4	62.6	57	83	140	7.3
32,326	East Texas	Upshur	Woodbine	3,729-3,755	41.5	.19	40	45	36.1	63.4	56	83	140	6.1

TABLE 2—DATA INDICATING THE "BASE" OF THE CRUDE OIL

Sample No.	Field—	County	Formation	Total depth (feet)	Fraction distilling at atmospheric pressure between 250-275° C.: Specific gravity	Degrees A.P.I.	Fraction distilling at 40 mm. pressure between 275-300° C.: Specific gravity	Degrees A.P.I.	Cloudpoint (deg. F.)	Base of crude
31,061	Van	Van Zandt	Woodbine	2,710	0.824	40.2	0.902	25.4	75	Paraffin
33,118	Van	Van Zandt	Woodbine	2,902	.825	40.0	.903	25.2	80	Paraffin
33,119	Van	Van Zandt	Woodbine	2,914	.825	40.0	.900	25.7	75	Paraffin
33,120	Van	Van Zandt	Woodbine	2,966	.824	40.2	.905	24.9	75	Paraffin
33,121	Van (shallow)	Van Zandt	Nacatoch	1,277	.869	31.3	.924	21.6	Below 5	Naphthene
26,586	Nigger Creek	Limestone	Woodbine	2,842	.830	39.0	.909	24.2	90	Intermediate
24,913	Powell	Navarro	Woodbine	....	.814	42.3	.901	25.6	85	Paraffin
26,511	Powell	Navarro	Nacatoch	1,011	.843	36.4	.894	26.8	85	Intermediate
27,332	Boggy Creek	Cherokee	Woodbine	3,849	.837	37.6	.890	27.5	95	Intermediate
259	Richland	Navarro	Woodbine	2,980	.815	42.1	.891	27.3	90	Paraffin
24,914	Richland	Navarro	Woodbine	2,987	.820	41.1	.903	25.2	95	Paraffin
24,915	Richland	Navarro	Woodbine	....	.814	42.3	.897	26.3	85	Paraffin
260	Richland Extension	Navarro	Woodbine	2,968	.826	39.8	.893	27.0	90	Intermediate
24,916	Wortham	Limestone	Woodbine	3,004	.818	41.5	.891	27.3	85	Paraffin
24,932	Wortham	Limestone	Woodbine	2,961	.817	41.7	.896	26.4	90	Paraffin
24,933	Wortham	Limestone	Woodbine	3,015	.816	41.9	.891	27.3	90	Paraffin
25,008	Wortham	Limestone	Woodbine	3,015	.818	41.5	.890	27.5	95	Paraffin
244	Mexia	Limestone	Woodbine	3,100	.821	40.9	.894	26.8	85	Paraffin
32,332	East Texas	Gregg	Woodbine	3,514	.834	38.2	.887	28.0	95	Intermediate
32,330	East Texas	Gregg	Woodbine	3,578	.833	38.4	.890	27.5	95	Intermediate
32,328	East Texas	Gregg	Woodbine	3,653	.834	38.2	.891	27.3	95	Intermediate
31,063	East Texas	Rusk	Woodbine	3,592	.834	38.2	.890	27.5	95	Intermediate
31,064	East Texas	Rusk	Woodbine	3,652	.835	38.0	.887	28.0	95	Intermediate
32,337	East Texas	Rusk	Woodbine	3,655	.835	38.0	.888	27.9	95	Intermediate
32,336	East Texas	Rusk	Woodbine	3,720	.833	38.4	.890	27.5	95	Intermediate
32,335	East Texas	Smith	Woodbine	3,702	.834	38.2	.890	27.5	95	Intermediate
32,327	East Texas	Upshur	Woodbine	3,702	.833	38.4	.891	27.3	95	Intermediate
32,326	East Texas	Upshur	Woodbine	3,755	.830	39.0	.888	27.9	95	Intermediate

TABLE 3—COMPARISON OF EAST TEXAS CRUDE OIL WITH CRUDE OILS FROM VAN, POWELL, NIGGER CREEK, MEXIA, BOGGY CREEK, RICHLAND AND WORTHAM FIELDS

Sample No.:	33,119	33,121	26,586	24,913	26,511	27,332	24,914	24,916	244	32,336	32,342
Field:	Van	Van (shallow)	Nigger Creek	Powell	Powell	Boggy Creek	Richland	Wortham	Mexia	East Texas	East Texas
Location:	Van Zandt County	Van Zandt County	Limestone County	Navarro County	Navarro County	Cherokee County	Navarro County	Limestone County	Limestone County	Rusk County	Gregg County
Formation:	Woodbine	Nacatoch	Woodbine	Woodbine	Nacatoch	Woodbine	Woodbine	Woodbine	Woodbine	Woodbine	Woodbine
General characteristics:											
Gravity, deg. A.P.I.	34.2	20.3	40.0	38.2	31.3	40.6	39.2	39.8	35.6	39.8	40.2
Sulphur content	0.90	1.42	0.27	0.24	0.26	0.29	0.25	0.21	0.19	0.25	0.25
Pourpoint:											
Degrees F.	Below 5	Below 5	Below 5	20	Below 5	5	20	10	20	45	35
Viscosity at 100° F.	52	250	42	41	57	40	40	40	46	43	40
Color	Brownish black	Brownish black	Brownish green	Brownish black	.....	Green	.....	Brownish black	Brownish black	Greenish black	Greenish black
"Gasoline and naphtha" content:											
Per cent	25.6	...	36.9	28.4	17.4	36.2	30.8	29.9	17.3	35.8	37.0
Gravity, deg. A.P.I.	62.6	...	62.9	60.8	54.0	62.1	62.6	54.9	52.7	62.6	63.1
Vacuum fractions:											
Temperatures of cut	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)	275-300° C. (527-572° F.)
Viscosity at 100° F.	170	250	195	210	175	145	240	120	170	145	150
Gravity, deg. A.P.I.	25.7	21.6	24.2	25.6	26.8	27.5	25.2	27.3	26.8	27.5	27.5
Cloudpoint	75	Below 5	90	85	85	95	95	85	85	95	95
Residuum:											
Per cent	31.0	53.0	18.6	19.2	27.6	21.9	15.9	15.9	16.8	21.8	21.7
Gravity, deg. A.P.I.	16.0	14.4	16.5	16.2	16.5	19.2	13.9	17.5	...	16.0	15.9
Carbon residue, per cent	8.5	10.4	8.6	9.9	8.7	6.4	12.1	7.4	9.9	8.9	9.1
Carbon residue of crude	2.6	5.5	1.6	1.9	2.4	1.4	1.9	1.3	1.7	1.9	2.0
Base of crude	Paraffin	Naphthene	Intermediate	Paraffin	Intermediate	Intermediate	Paraffin	Paraffin	Paraffin	Intermediate	Intermediate

seconds and averages 41 seconds. The pourpoints vary from 25° F. to 50° F. The gasoline and naphtha content ranges from 35 to 37.1 per cent and averages 35.9 per cent. The color is uniformly greenish-black.

Table 3 shows a comparison of some of the physical and chemical properties of representative crude oil samples from Woodbine and Nacatoch sand wells in the East Texas, Van, Powell, Wortham, Mexia, Richland and Boggy Creek Fields of Texas. The Boggy Creek Field is the nearest producing field to the East Texas Field. These samples are typical of crude oil production from the Woodbine and Nacatoch sand formations in the respective fields.

A study of the analyses in Table 3 shows that two classes of crude oils are produced from the Woodbine sand in the East and East Central Texas Fields. The crudes of the East Texas Field, Nigger Creek Field (Sample No. 26,586) and the Boggy Creek Field are intermediate-base oils, while the samples from the Powell, Van, Wortham, Mexia and Richland Fields are paraffin-base oils, although the higher boiling distillates resemble those of intermediate-base crude oils. The crude oils from these fields have a number of similar characteristics, although there are some major differences. The sample from the Nacatoch formation in the Van Field is naphthene base, although the higher boiling distillates resemble those of intermediate base. The crude oil from the Nacatoch sand of the Powell Field (Sample No. 26,511) is of intermediate base.

Sample No. 33,119, Van Field, presents the greatest difference between the Woodbine sand samples of the different fields in that the sulphur content of this sample is more than three times that of any of the other Woodbine sand samples. The viscosity at 100° F. is higher by from 7 to 10 seconds Saybolt. The gravity is from 3 to 6 degrees A.P.I. lower. The other samples are in close alignment in these characteristics as well as in the percentage of "gasoline and naphtha" fractions. The fractions from the vacuum distillation of Sample No. 32,336, East Texas Field, have slightly lighter gravities and lower viscosities than have the respective fractions from the other samples. It is interesting to note that the cloudpoints of the vacuum fractions of the East Texas (Sample No. 32,336) and the Nigger Creek (Sample No. 26,586) crude oils, which have an intermediate base, are from 5° to 20° F. higher than the cloudpoints of the respective vacuum fractions of the Powell (Sample No. 24,913) and the Van (Sample No. 33,119) crude oils which have a paraffin base.

In general, the crude oil from the East Texas Field has good refining qualities. The per cent of gasoline and naphtha recovered is high, and the gravity and color are of good quality. The gas-oil fraction has too high a cold test to be generally suitable as fuel, but it appears to be good cracking stock for the production of gasoline.

Artificial Lift Installations Increase in Venezuela Fields

(Continued from Page 37)

of Buchivacoa, state of Falcon, remained closed in during the entire year.

Wildcats.—The Standard Oil Co. of Venezuela completed the only two wildcats drilled in the state of Falcon during 1933. La Vela No. 3, in the district of Colina, was abandoned as a dry hole at a depth of 4,705 feet and Ricoa No. 1, in the district of Zamora, was likewise abandoned as a dry hole at a depth of 6,404 feet. The same company deepened its La Vela No. 2 from 2,822 to 3,320 feet, but again it resulted in a high-pressure gas well, with no oil. At the end of the year, the British Controlled Oilfields, Ltd., was rigging up its La Guinea No. 1 wildcat in the district of Buchivacoa.

Quiriquire Field: (District of Piar, state of Monagas).—Drilling was suspended in this field in April, 1933, but was again resumed in August, and nine producing wells were completed by the end of the year. The production for the year, which amounted to 6,698,000 bbls., was the highest of any year in the history of the field and was 35 per cent higher than that of 1932. The daily average production at the end of the year was 22,820 bbls., as compared to 10,867 bbls. at the end of 1932. Very satisfactory results are reported from gas repressuring, which was started in this field in February, 1933, and several wells which formerly were considered as candidates for artificial lift have returned to natural flow status.

A new export terminal for the loading of ocean tankers is being constructed by the Standard Oil Co. of Venezuela, at Guiria, on the southern coast of the Para Peninsula in the district of Marino, state of Sucre. Oil will be transported, by shallow draft tankers to Guiria from Caripito, the present loading terminal for the Quiriquire Field on the San Juan River.

Guanoco Field: (District of Benitez, state of Sucre).—This field remained closed in during the year.

Wildcats.—The most important new oil strike of the year was that encountered in Pedernales No. 2, the third test well to be drilled by the Standard Oil Co. of Venezuela in the Pedernales area of the territory of Delta Amacuro. This well blew out in April, 1933, at a depth of 1,571 feet with an estimated flow of 5,000 bbls. daily of 17.8° Be. oil. However, although the blowout was speedily controlled, considerable difficulty has been experienced in efforts made to complete the well as a commercial producer, owing to the very silty nature of the producing horizon, which causes the well to sand up after flowing for only a short period. In September, with 60-mesh screen liner installed, the well averaged only slightly more than 200 bbls. daily through a seven-sixteenths inch choke during the few days it produced before it again sanded up. Up to the end of the year, no commercial production had been reported from the well. A fourth well, Pedernales No. 3, approximately 110 meters northeast of Pedernales No. 2, was being prepared for a test at a depth of 3,034 feet at the end of the year.

A small amount of oil was also encountered by the Standard Oil Co. of Venezuela in two wells drilled in the Orocual area in the district of Piar, state of Monagas, about 20 kilometers southwest of the Quiriquire Field. Orocual 2, which was drilled to 5,021 feet, was plugged back to 3,183 feet and completed at that depth as a very small pumping well. Orocual 3 was completed at a depth of 3,016 feet as a 150-bbl. pumper. The oil from both wells is very heavy and the gravity was reported as being between 12° and 13.5° Be. Additional exploration is expected to be carried out in this area during 1934.

At the close of the year, La Pica No. 1, in the district of Maturin, state of Monagas, on pooled acreage of the Compania Espanola de Petroleos, the Lago Petroleum Corp. and the Standard Oil Co. of Venezuela, and drilled by the last named company, was fishing for lost drill pipe at a depth of 5,857 feet. Dry gas was encountered at 5,040 feet but no oil shows were reported. It is understood that the well is scheduled for abandonment.

During the year the Venezuela Gulf Oil Co. drilled Oficina No. 1 to 6,184 feet before moving off the tools to its No. 2 location. This well made only dry gas but in considerable volume. The Oficina area is in the district of Freites, state of Anzoategui, about 130 kilometers northwest of Ciudad Bolivar. The same company is preparing to drill additional wells in both the northern and southern parts of Freites.

The increasing tax burdens on the large holdings of the various companies in eastern Venezuela will probably necessitate further test drilling during 1934, in order to eliminate acreage of least promise. At the present time several companies are busily engaged in carrying out geological and geophysical exploration work. Various engineering parties have been active during 1933 in surveying concessions on which maps are due to be presented to the government in 1934.

Bandy and Boone Now With Wilson Supply Sales Staff

Roy Bandy (left), who for the past nine years has been associated with the Boykin Machinery & Supply Co. and the

Boykin division of the International Derrick & Equipment Co. of Texas, successors, has joined the sales staff of the Wilson Supply Co. of Houston, Tex. S. A. Boone (center), formerly associated with the Hughes Tool Co. in the East Texas and Conroe Fields, has also joined the Wilson sales staff. O. Hammer (right), of the Security Engineering Co., Whittier, Calif., which is represented in the Mid-Continent by the Wilson Supply Co., is conducting experiments in the Gulf Coast with Seivers reamers.

Precedent Established in St. Louis Controversy

(Continued from Page 34)

One hundred and ten dollars per month for maintenance men.

Existing rates of pay in excess of these minimums will not be reduced.

Stock Losses

Tests shall be conducted at a reasonable number of typical stations in the presence of the interested parties and under the supervision of impartial observers, over a sufficient period, subject to the discretion of the Petroleum Labor Policy Board, to determine normal average gasoline losses, if any, at these stations between the tank wagon gauge and the pump hose. Findings shall serve for the board to establish a fair allowable, if any, to employes for handling losses, same to be expressed in terms of percentage of total gasoline sold each month.

When the fair allowable, if any, is finally determined, the companies will make same effective at those stations where said companies are responsible for maintenance of minimum wages and maximum hours under the petroleum code in St. Louis City and County retroactive to January 15, 1934. Retroactive pay, if any will be made in the form of deficiency checks, and subsequent payments, if any, shall be handled through gallonage allowance to be deducted on the closing stock and cash report each month.

Uniforms

Employers who require their employes to wear uniform will furnish and launder the uniforms.

Discharge of Employes

Any employe shall have the right to be represented by a representative of his own choosing in case of a controversy over the discharge of said employe. Should the matter not be amicably adjusted, all disputes as to fact over discharge for the violation of existing and/or future rules, providing they cannot be amicably settled first between representatives of the parties concerned, shall be submitted for settlement to a commissioner of conciliation of the U. S. Department of Labor. All such complaints by employes shall first be taken up with the employes' supervisor and—in case satisfactory action is not secured—shall then be presented in writing to the next superior supervisor through one or more of the aggrieved employe's fellow employes.

Period of Agreement

General working conditions as presently existing, and/or as determined through the submission for conciliation of controversial issues to the Petroleum Labor Policy Board, will be maintained for at least three months. Thereafter if either employer or employes desire changes, at least four weeks' notice of any proposed changes is to be made in writing to those affected. Unless notice of objection in writing is given within two weeks by those affected, or their representatives, such changes shall be considered acceptable. If a controversy arises which cannot be amicably settled first between the employer and representatives of the employes concerned, it shall be submitted for conciliation to the Petroleum Labor Policy Board.

Settlement of Controversies

All local controversies as to facts over general working conditions and violations of existing or future general company rules, which cannot be amicably settled first between the company and representatives chosen by the employes concerned, shall be submitted for arbitration to a commissioner of conciliation of the U. S. Department of Labor. All such complaints by employes shall first be taken up with the employes' supervisor and—in case satisfactory action is not secured—shall then be presented in writing to the next superior supervisor through one or more of the aggrieved employe's fellow employes.

All local controversies as to policy changes involving general working conditions and additions to or deletions from existing or future general rules for employe conduct, which cannot be amicably settled first between the company and representatives of the employes concerned, shall be submitted for conciliation to the Petroleum Labor Policy Board.

New Code Regulations and Conservation Statute

(Continued from Page 19)

which has so painstakingly been erected during the past six months cannot now be foretold. Suffice it to say that we are exerting every effort to obtain a speedy decision on the merits from the Supreme Court of the United States. In the meantime, Administrator Ickes has directed the continuance of enforcement of existing regulations within the limits permitted under the Amazon and Panama decisions. Under his direction, too, the Petroleum Administrative Board is now drafting new and, we believe, even more effective regulations under the National Industrial Recovery Act and the petroleum code for the purpose of protecting the producing states against any disastrous effects from an overflow of the wells in Texas. The board also is drafting a new Federal oil conservation statute, designed at once to obviate the objections that have been made against the present statute and code and to achieve conservation of this country's petroleum resources more completely, more directly, and more surely than is possible under the present setup. By dint of these new measures, and with the cooperation of a majority of those in the industry, we hope not merely to stem the threatened tide of defeat but actually to divert its force along lasting lines that will promote the cause of conservation.

W. W. WAIT DIES

Walter W. Wait, formerly vice president and director of the Venezuelan Petroleum Co., died at his home in Columbus, Ohio, following a long illness. He was 60 years old. In addition to his oil company work he was engaged in the railroad and steel industries for several years and during the World War was in the United States Consular Service. He is survived by his son, H. Gregory Wait.

May Use War Powers to Control Operations

(Continued from Page 12)

From the economic side stabilization justifies itself in the prevention of waste, reduced operating costs and adequate profits. Politically, a program which assures the consumer a long-term supply at a price in line with production costs should have no kickback if understood by the public. The legal end which has just been explained has many possible angles but this phase of the problem which threatened at one time to stop all efforts to bring about stable conditions due to wild game theory of production and the necessity of protecting private property rights, is being adjusted to meet the peculiar conditions in the oil business. Several who have been connected with the stabilization efforts for several years were hopeful that the coming year would see substantial progress in the practical phases of their program.

Regimentation Not Adequate

The regimentation of the various branches of the oil industry under the code without first obtaining a permanent balance between supply and demand for petroleum products will prove ineffectual, according to W. S. Farish, chairman of the board of the Standard Oil Co. of New Jersey. This balance has not been obtained so far, he said, and he stressed the necessity of solving this problem as the basis in any plan of stabilization. A similar viewpoint was expressed by Sidney A. Swensrud of the Standard Oil Co. of Ohio.

Mr. Farish outlined briefly the efforts made in recent years to bring about better conditions through co-operation within the industry and through state and Federal regulations.

"It has been a process of education and all have gained some knowledge as to our final objective and how it should be reached," Mr. Farish said in explaining that the past had demonstrated "that as an industry we could not prosper under the feast and famine method of operation." He said that an adequate stabilization program made effective will lower costs and keep reserves under ground to be drawn on as needed. He expressed the opinion that Federal aid would be needed in any successful program and emphasized the necessity of greater legal authority. In this connection he said that this additional legal backing should not stop with a new law on capture as some have suggested. The legal aid, he said, should be directed to bring about unit operation.

According to Mr. Swensrud even with unit operation accomplished, enforced balancing of supply and demand would probably be necessary, and for that reason some form of governmental control is necessary. He said in his opinion it was possible to secure a balancing in supply and demand with adequate profits without price control.

Warren A. Sinsheimer of the Cities Service Co. said it is necessary in determining demand to take into consideration the consumer requirements for fuels and other products as well as motor fuels.

Estimating Consumer Requirements

In balancing supply and demand in the petroleum industry the demand should be based on consumer requirements and speculative features reduced to a minimum, according to Joseph E. Pogue.

"Progress toward equilibrium in the petroleum industry requires a clear perception that supply must not exceed the demands of ultimate consumers," Mr. Pogue said, "and in addition, that those sources of excess pressure on the supply side, such as extra capacity, surplus potentials, unneeded inventories, and uneconomic drilling practices, be gradually eliminated. And in working toward these ends, it will be well to leave sufficient flexibility in the economic structure to permit facility of expansion when the time arrives when stimulus should be substituted for restraint."

Aerial Topographic Mapping Is Speeded

(Continued from Page 38)

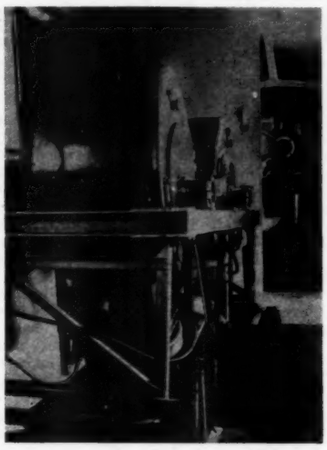
tact points involved. As the negatives cover an area of about 62 square miles, this means that the engineers must determine about 30 points, all for distance, and at least half for elevation, or two points in a square approximately 8 miles on a side. These points will be determined by triangulation which is far more accurate than transit traverses and many times faster. One engineering unit, therefore, can cover perhaps 10 times the area in one season that it could have done under the usual transit traverse system of obtaining ground control.

Prepare Final Map

As the engineering control data is completed and received at headquarters, the final map is prepared using the original set of negatives taken on the first flight. On this map an accuracy of two-tenths of a unit of scale is guaranteed. This is amazing accuracy and applies both to the horizontal and if desired the vertical scale. It has been achieved many times while the development and eventual commercial inception of this process was taking place and many checks have been made by outstanding civil engineering firms.

The finished contour map is prepared in a surprisingly short time, depending on the contour interval specified. This detailed map is prepared only over areas of real interest and need not cover the entire area photographed simply for the purpose of carrying the contours through, as due to the accuracy of the system, the contours are bound to match up no matter when the different sections of the map are prepared provided two control points appear within the area of each matching pair of negatives.

When the topographic contour maps are completed the geologist can go into the territory and on this map without the aid of any engineering assistants, he may plot his geological observations since nearly always he can identify his position absolutely from the contour map. Lacking definite identification at any particular spot, he may quickly pace his distance and record the direction to some known spot on the map. He is not required to wait while an engineer runs



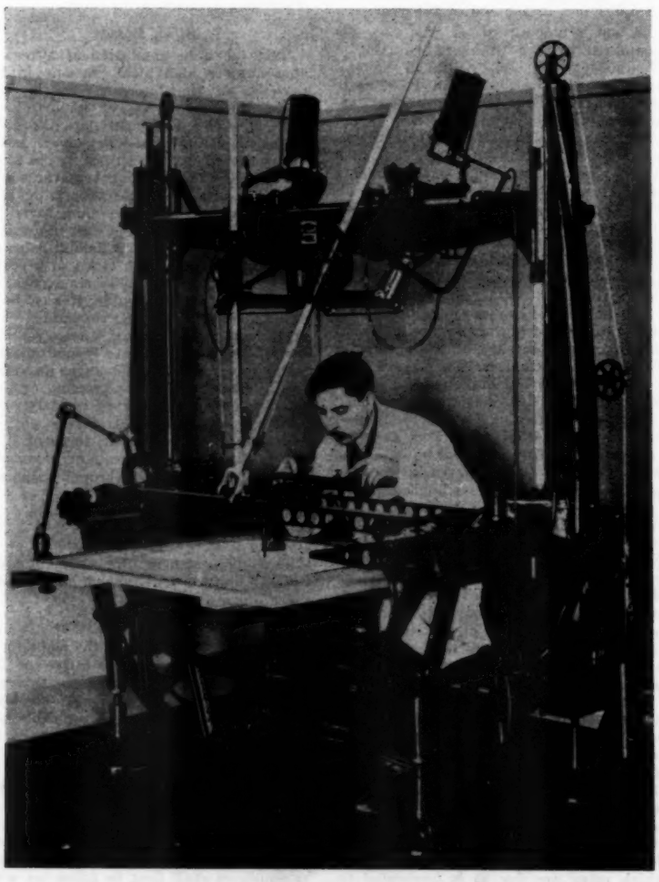
Two of the precision Codastro cameras on floor of airplane ready for use in air

a traverse along the selected route. Consequently he carries out his examination rapidly.

Surveying Rights of Way

L'Aero System maps will also be very useful to the pipe line departments of the oil companies. By their use precision maps showing actual elevations of the ground can be made for use in selecting pipe line rights of way without the knowledge of the owners of the land over which it is proposed to run the line. More advantageous purchases of rights of way can thus be made. It is even possible to measure the depths of water in clear streams so that river crossings for pipe lines may be easily selected by photographing a portion of the stream bed. Such work has been carried on in France in tidewater areas where it was impossible to work with engineering instruments; while soundings proved inaccurate due to the rise and fall of the tides.

This system will facilitate the selection of routes for pipe lines, power transmission lines, railroads, canals, and roads crossing new territory. It may also be used for the preparation of tax maps, insurance maps, flood control plans, reforestation maps, etc. In fact there is no project in which maps are used that cannot be speeded up by this rapid accurate method of aerial survey. It should prove a most useful tool to the many phases of the oil industry.



The restitution machine used in making the actual maps, and profiles

Bill Taxing Gas 5 Cents Is Drafted by Coal Men

WASHINGTON, D. C., Feb. 26.—A tentative bill has been drafted by the National Coal Association to provide revenue by imposing a tax of 5 cents per 1,000 feet on all natural gas sold within the United States, except gas furnished to the United States or to any state or territory or political subdivision thereof or to the District of Columbia. The bill has not as yet been introduced in Congress but the coal industry and the United Mine Workers are reported as being back of the movement to impose this tax on the natural gas industry. The idea of taxing one industry for the benefit of another does not meet with much approval here and it is extremely doubtful if the proposed bill could be passed if introduced but the natural gas industry should be prepared to combat any effort made to have such a tax imposed.

The National Coal Association started its movement to tax natural gas last fall. It told its members a tax on natural gas should be urged by this (the coal) industry. In the same bulletin the association stated: "To see to it that the next Congress (now in session) levies a substantial tax on natural gas at the well should be the aim of every coal operator. Such a tax would provide a large Federal revenue from a new source and would be the means of restoring and retaining employment for thousands of miners. The labor cost in gas production and distribution figures at less than 5 per cent as against 65 per cent in coal production. A survey has been completed by the Columbia Gas & Electric Co. and the Standard Oil Co. for a gas pipe line from Syracuse, N. Y., to Wilkesbarre and Scranton. That would be carrying 'coals' to Newcastle with a vengeance. And such a line would likely be further extended to Philadelphia and New York. The menace is universal."

Provisions of the tentative bill drafted include the following:

"There is hereby imposed, in addition to any other tax or duty imposed by law, a tax at the rate of 5 cents per 1,000 feet on the sale of all natural gas sold within the United States, whether such gas be in its natural form or a component of a mixture or a blend or otherwise howsoever. Said tax shall apply to the last sale of such natural gas, it being the intent of this act that only one tax shall be imposed thereon under the provisions of this act.

"No tax shall be imposed under this act upon the sale of natural gas furnished to the United States or to any state or territory, or political subdivision thereof, or to the District of Columbia. The right to exemption under this paragraph shall be evidenced in such manner as the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury may by regulation prescribe.

"Each vendor may add the amount of the tax imposed by this act to the price for which the natural gas subject thereto is sold and may collect the amount of the tax from the person purchasing such natural gas for consumption."

New Wildcats in Andrews and Ector Counties; Forty-three Locations in Wichita Falls Area

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex. Feb. 26.—Two interesting wildcat locations were made in the West Texas district the past week, one in Andrews county and one in Ector county. Humble Oil and Refining Co. has made location for its No. 1 R. M. Means in Section 2, Block A-35, P.S.L. Survey about 12 miles northeast of the Ogden Pool in Andrews County. The test will be spudded by March 12 on a block of 4,552 acres which it acquired from the Llano Oil Co., joined on the southwest by the University of Texas block out of which the company leased 18 sections, paying an average price of $8.40 per acre this week. The drilling of this test will be the first in this county in two years and follows a heavy leasing campaign begun last year when the Humble Pipe Line Co., constructed a 4-inch pipe line from Ector County to the Odgen Pool in Andrews County which had been without an outlet since the discovery of the pool. The company has also made an offset location to J. W. Tripplehorn's No. 1 Kuykendall, a producer in the Ogden Pool, in Section 24, Block A-46, P.S.L. Survey.

Ector County

In Ector County Honolulu Oil Co. and others have made location for No. 1 Kloh in Section 33, Block 44, Township 2s, T.&P.R.R. Survey, 2½ miles southwest of Broderick and Calvert and others' No. 1 E. F. Cowden in Section 25, Block 44, which opened the fourth pool in the county late last year.

Broderick and Calvert and others' No. 1-K. E. F. Cowden has been abandoned at a total depth of 4,504 feet after drilling into sulphur water encountered from 4,497 to 4,504 feet. The water showed up 515 feet in the gray lime topped at 3,982 feet. It had only a slight showing of oil from 4,045 to 4,056 feet. The test is 3 miles northeast of the same operators' No. E. F. Cowden discovery well and 3 miles northeast of the Addis Area in Section 16, Block 43, Township 2s, T.&P.R.R. Survey, Ector County.

Gaines County

Ralph H. Gill of San Angelo has abandoned his interesting wildcat in Gaines county which was drilled on E. R. Crews land in the south central part of the county. Total depth is 4,993 feet. One and two-thirds bailers of sulphur water hourly was encountered from 4,979-88 feet. It is located in Section 9, Block A-20, P.S.L. Survey.

Reeves County

Hugo Freel's No. 1 I. B. Greenman in Reeves County which two months ago showed high gravity oil with gas at 3,-850 feet, made a head of oil while drilling to 3,985 feet and will be shot this week with 108 quarts. The hole filled with 550 feet of oil and 50 feet of water in three days and has been shut down since the latter part of January. The quantity of oil headed was undetermined as it went into the pit. It is a wildcat test in Section 21, Block 2, H.&G.N. Survey.

Runnels County

In Runnels County, J. D. Wesner and Wahlenmaier Petroleum Corp.'s No. 1 Thomas C. Hall, a wildcat in the southwest corner of the E.T.R.R. Survey No. 149 about 4½ miles south and 2½ miles west of the McMillan Pool had a showing of oil at 2,506 feet in sand and a test is to be made of same this week. Water which was encountered from 2,390 to 2,400 feet is being shut off so that a test can be made.

Tom Green County

Three shallow tests are being drilled by the Richmond Drilling Co. in Tom Green County for geological information for the Plymouth Oil Co. on its Twin Mountains block of 5,992 acres. The data obtained from these tests will have a bearing upon the location of a deep wildcat to be drilled in search of Ordovician production. It is expected the three shallow tests will be carried to around 1,000 feet. The first test is to be on the Joe Wileke lease in Section 3, Blind Asylum Survey, about 2 miles west of San Angelo.

Wildcat Operations in West Texas

Week Ending February 26

Company, well, farm name, section and block—	Remarks:
ANDREWS COUNTY	
Fuhrman Pet. Co.'s No. 1-B Bonner, 1,320 ft. from N line and 1,320 ft. from E line of Sec. 35, Blk. A-43, P.S.L. Sur.	Rig up.
Humble Oil & Ref. Co.'s No. 1 R. M. Means, 660 ft. from N and 660 ft. from E of Sec. 2, Blk. 2-35, P.S.L. Sur.	Cellar.
Humble Oil & Ref. Co.'s No. 1 Kuykendall, 1,980 ft. from S and E lines of Sec. 24, Blk. A-46, P.S.L. Sur.	Cellar.
Llano Oil Co.'s No. 1 J. E. Parker, 330 ft. from N line, 990 ft. from E line of Sec. 18, Blk. A-44, P.S.L. Sur.	Location.
BREWSTER COUNTY	
C. P. Link and Joiner's No. 1 McIntire, 353 ft. from S, 3,390 ft. from E of Sec. 31, Blk. 353, W. M. Mitchell Sur.	Drlg. 1,417 ft..
COKE COUNTY	
Wm. Hooper's No. 1 Gaston, 240 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11	Drlg. 1,235 ft.
CRANE COUNTY	
Gulf Prod. Co.'s No. 1 Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 31, Blk. B-18, Public School Land Sur.	Fishing for tools; T.D. 4,078 ft.
Storey, Frievele & Duffy's No. 1 G. L. Brown et al, 330 ft. from N and E lines of Sec. 34, Blk. 43, Twp. 4s, T.&P.R.R. Sur.	Drlg. 840 ft.
CROCKETT COUNTY	
Porter Rankin's No. 1 Todd, 1,500 ft. from N line and 1,020 ft. from E line of Sec. 68, Blk. UV, G.C.&S.F. Sur.	S.D. 570 ft.
J. D. Young's No. 1 Shannon, 330 ft. from W line, 330 ft. from N line of Sec. 35, Blk. 1, G.C.&S.F. Sur.	S.D. 2,635 ft.
CULBERSON COUNTY	
Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.	S.D. 1,110 ft.
DAWSON COUNTY	
Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.	T.D. 1,750 ft.
ECTOR COUNTY	
Atlantic Oil & Prod. Co.'s No. 1 Holt, 1,980 ft. from N line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Running tubing; T.D. 4,320 ft.
Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Location.
Continental Oil Co.'s No. 1 Holt, 660 ft. from W and 1,980 ft. from S line of Sec. 20, Blk. A, P.S.L. Sur.	Drlg. 4,102 ft.
C. J. Davidson et al's No. 1 Cole, 660 ft. from N line and 660 ft. from W line of Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.	Drlg. 90 ft.
Gilpen et al's No. 1 Blakeney, 330 ft. from S, 440 ft. from E line of Sec. 32, Blk. 43, Twp. 1n, T.&P. Sur.	600 ft. of oil in hole and 100 ft. of water in 7 days; T.D. 4,405 ft.; no test after acid treatment.
Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.	Drlg. 3,836 ft.; no report.
Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.	Location.
Honolulu Oil Co. et al's No. 1 Kloh, 660 ft. from E and 1,980 ft. from S of Sec. 33, Blk. 44, Twp. 2s, T.&P. Sur.	Location.
Humble Oil & Ref. Co.'s No. 1 Thomas J. Martin, 330 ft. from N and 440 ft. from E line of Sec. 38, Blk. 43, T.&P. Sur.	T.D. 4,318 ft.; making from 2 to 7 bbls. of oil per hour.
Landreth Prod. Co.'s No. 2 O. B. Holt, 660 ft. from S and E lines of Sec. 15, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	Rig up.
Landreth Prod. Co. and Llano Oil Co.'s No. 2 O. B. Holt, 1,980 ft. from W and 1,980 ft. from N, Sec. 20, Blk. A, P.S.L. Sur.	Drlg. 3,589 ft.
Moran Drlg. Co.'s No. 1 Smith, 330 ft. from N line, 330 ft. from W line of Sec. 12, Blk. 43, Twp. 1s, T.&P. Sur.	Flowing 25 bbls of oil per day; running tubing.
Stanolind Oil & Gas Co.'s No. 3 E. F. Cowden, 2,275½ ft. E and 330 ft. from S line, Sec. 26, Blk. 43, Twp. 2s, T.&P.R.R. Sur.	Drlg. 75 ft.
Stanolind Oil & Gas Co.'s No. 4 J. M. Cowden, 660 ft. from N and 1,980 ft. from E line of Sec. 27, Blk. 43, Twp. 1n, T.&P. Sur.	Drlg. 4,025 ft.
Stanolind Oil & Gas Co.'s No. 5 J. M. Cowden, 660 ft. from N and 1,980 ft. from E line of Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.	Drlg. 3,400 ft.
Fred Turner, Jr.'s No. 1-C F. V. Addis, 1,650 ft. from the W line of Sec. 35, T.&P. Sur., Blk. 43, Twp. 2s	Drlg. 2,475 ft.
Fred Turner's No. 2-A Addis, 2,310 ft. from N and 440 ft. from E of Sec. 35, Blk. 43, Twp. 2s, T.&P Sur.	Cellar
FISHER COUNTY	
Condor Pet. Co.'s No. 1 Herring, 450 ft. from S and 330 ft. from W line of Sec. 192, Blk. 1, B.B.B.&C. Sur.	Moving in rig.
Condor Pet. Co.'s No. 2 Wilson, 640 ft. from N and 2,310 ft. from W line of Sec. 6, Blk. R, W. E. Richardson Sur.	Cellar
Cranfill & Reynolds' No. 1 J. H. Young, 330 ft. W and 330 ft. S of NE cor. of survey, Sec. 208, B.B.B.&C. Sur.	Drlg. 2,320 ft.

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Mineral leases of 26 ¼ sections of University of Texas land in Crane and Andrews Counties were awarded to high bidders by the Board for lease of University Lands, receipts from the awards were $108,200 for bonuses and rentals.

Gulf Production Co.'s No. 103 McElroy wildcat test in Upton County is drilling below 9,085 feet in lime. The other Ordovician test, in Pecos County, being drilled by the Humble Oil and Refining Co. is drilling below 7,931 feet.

Eight locations and 6 completions were registered in the district during the week, 3 of the completions were dry holes.

Pecos County

The Railroad Commission will hold a hearing in Austin this week to consider plans for revising the method allocating production in the Yates Field, Pecos County.

The Arkansas Fuel Oil Co. is planning to plug back its No. 1 University in Section 32, Block 16, University lands to 1,642 feet. The well is in the Taylor-Link Pool, Pecos County, and at the present the bottom of the hole is 1,652 feet. The well will be plugged back 10 feet in an attempt to shut off the water and if the attempt fails it will be treated with acid during the week.

WICHITA FALLS

There were 43 locations staked in the Wichita Falls District during the week, Archer County leading in activity with 28. Young County had 8 and Wilbarger, Jack, Foard and Clay each participated in the new activity. Thirty-four tests were completed, 13 dry and abandoned. Twelve of the producers were completed in Archer County, 8 treated with acid.

Pitzer and West's No. 2 Robert Morrison in the northeast corner of T.E.&L. Survey No. 431, four miles east of Newcastle in north Young County, extended production by 1,800 feet west. It is in the northwest extension of the James Lime Pool which produces from the 3,-900-foot lime pay. It topped the lime at 3,835 feet and had a showing of gas at 3,839 feet, estimated at 50,000 feet. It was bottomed at 3,970 feet with no showing of oil but after treating with 1,000 gallons of acid solution with a 200-bbl. clear water load filled up and made an 80-bbl. flow in 8 hours with around 1,000,000 feet of gas.

Reagan County

Big Lake Oil Co.'s No. 12-C University in the Big Lake Pool in Reagan County which was reported last week as being treated with 5,000 gallons of acid yielded only 75 bbls. of oil and 10 bbls. of water with a gas yield of 850,000 feet following plugging back from 8,857 feet to 8,787 feet, indicating little benefit from the treatment.

In Ector County Humble Oil and Refining Co.'s No. 1 Martin in Section 38, Block 43, Township 2s, is flowing from 2 to 7 bbls. of oil hourly after getting an increase from 4,270 feet to 4,318 feet the total depth. Gilpin and others' No. 1 Blakeney's Wildcat is running tubing after plugging back to 4,390 feet from a total depth of 4,405 feet; 600 feet of oil and 100 feet of water have accumulated in the hole after standgin seven days, no acid has been used.

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Core Encourages Hope in Anderson County Test; Bottom Hole Pressures Drop in East Texas

By L. E. BREDBERG

DALLAS, Tex., Feb. 26.—The first test on the Cayuga block of the Tide Water Oil Co. and Texas Seaboard Oil Co., cored what some say was a good saturated sand from 4,076-88 feet, the latter being present total depth. A drill stem test was made from 4,061-88 feet showing two and one-half joints of mud and oil in 40 seconds through a three-eighths inch choke on top and bottom. Seven-inch pipe has been cemented at 4,082 feet to shut off part of the gas and distillate in about half of the cored body of sand. Plug will probably not be drilled before Thursday. It is 240 feet in the Woodbine, therefore salt water can be considered an ever-present danger at such a depth.

Since coring the sand many who have felt the area would prove similar to the Long Lake area opened in September, 1933, by the same companies, are now feeling that perhaps an oil pool may be uncovered in this block, which is in northwest Anderson County, about 20 miles due north of the Long Lake gas-producing area. This makes the second strike by the two companies in Anderson County within six months.

The location is on fee (Edens) lands in the Samuel Snider Survey a short distance east of the Trinity River. Texas Pipe Line Co. has a trunk line to the Gulf Coast about 3 or 4 miles north and will probably connect if a discovery is made. The two companies hold the block intact.

The first drill stem test to show that the well might make an oil or gas producer was made last week from 3,848-3,915 feet, showing for an estimated 25,000,000 to 40,000,000-foot gasser on this test, with no oil or water. Pressure built up to 500 pounds in two minutes while flowing through a three-eighths inch choke. It proved itself a heavy gas producer from that upper sand section, and now seems to stand good chances of making an oil producer as well. Anderson County has been getting a good lease and royalty play since last September when the Long Lake oil-gasser was brought in. However, after a dry hole and only two more gassers were drilled in that area, and a gasser drilled on the Buffalo structure of the Shell Petroleum Corp. and others in Leon County, operators began to feel this part of the district would produce only gas or a little oil with the gas and trading fell off to a great extent, sporadic trading only remaining in Anderson, Leon, Freestone and adjacent counties. If this test on the Cayuga block proves an oil well it will revive trading and other wildcats can be expected in this and adjacent counties.

Henderson County

Humble Oil & Refining Co. and Gulf Production Co. have staked location for a wildcat on the A. L. Thomas lands in the Earl Pierce Survey, 1,000 feet out of the northeast corner of the tract and survey, approximately 4 miles southeast of Athens, Henderson County, on a large block held jointly by the two companies. Great State Oil Corp. and others will drill on the R. S. Ansley farm in the N. B. Thompson Survey, about 2½ miles northeast of Phantom in the same county.

Derrick has been up on the Roy Black, Darby Petroleum Co. and Stanolind Oil & Gas Co.'s large block in Henderson County for some time. Location is on the C. B. Meredith farm in the Wiley Kay Survey, 4 miles southeast of Malakoff.

Long Lake

Tide Water Oil Co.'s and Texas Seaboard Oil Co.'s No. 4 Long Lake test in southwest Anderson County is drilling below 4,890 feet after logging base of the Austin Chalk at 4,880 feet. It is running a little lower on the chalk than No. 1 Monnig discovery well which is making about 50 bbls. of oil per day with a heavy gas potential. This test is due south of No. 1. Same companies' No. 5 Monnig is drilling at 2,588 feet in shale. It is northeast of the discovery and the most interesting of the two tests now drilling.

Shell Petroleum Corp. and others' No. 1 Lee, in the William Cooper Survey, approximately 4 miles northeast of their Beggs gas discovery well, Leon County, went out of the Austin Chalk at 5,148 feet and is now drilling below 5,240 feet. Last week it topped this chalk at 4,862 feet. Elevation is 423 feet. The same operators' No. 1 Jones, north of the Beggs discovery is preparing to test again. Total depth is 5,963 feet, and the hole has been reamed to 5,947 feet. It is in the Summeralls Survey and on the same structure as the Beggs gasser. It showed for an estimated 5,000,000 feet of gas when tested last week from 5,935-53 feet, a much smaller gasser than the Beggs well which is also making distillate. The Jones well is running structurally lower than the discovery well.

EAST TEXAS

The Railroad Commission report for January showed a daily average of 393,559 bbls. being run through trunk lines. Local refinery runs to stills averaged 57,125 bbls, while daily tank car shipments averaged only 190 bbls., although large shipments of oil shipped out as "topped crude" were reported. Much of this so-called topped crude is said to be nothing more or less than illegally produced crude stripped of the heavy ends. This is to circumvent the Federal ruling in regard to interstate shipments of illegally produced crude.

Daily average storage increase in the field for January was reported as 2,370 bbls. by the Commission. Total deliveries from the field, by trunk lines, refinery runs to still and tank car shipments was 13,977,096 bbls.

There are approximately 2,950 separate leases in the field controlled by approximately 1,800 different companies and operators. Lease storage as of January 1, 1934 was 1,368,736 bbls. and on February 1 was 1,342,680 bbls. Net storage decrease was 26,056 bbls. for the month of January.

The 37 reclaiming plants in the field will add about 125,000 bbls. more per month to runs out of the field. There soon will be 66 refineries operating on crude from the field, many considered as "hot oil" plants. There are now 60 plants in the field with only 9 shut down. The 57 plants ran a reported 67,170 bbls. per day during the week. How much unreported oil they handled can only be estimated.

Two companies operating shallow wells ranging from 600 to 900 feet in Gregg county, producing oil which has seeped into the Carrizo water sand, are operating under Federal injunctions which prohibits the Railroad Commission from prorating these wells or charging the oil against the allowable for the field. Their total runs for January were 11,785 bbls.

Now 12,400 Wells

The total number of wells in the field, as of February 1, was 12,199. There are now nearly 12,400 wells in the field. There were 324 wells completed during January.

A total of 30 receiverships were in effect in the field on February 1. Since that time several other properties have been placed in the hands of receivers but during the past two weeks the attorney general's department has apparently slowed up its work of throwing properties into the hands of receivers.

Pit oil and oil said to come from tank bottoms increased from 20,000 bbls. in November to 60,000 bbls. in December and apparently is still on the increase. The greater part of this oil is considered having a "high temperature."

Bottom Hole Pressures

Bottom hole pressures in the field evidently reached an average peak in January, up to 1,274 pounds. On the last tests, made the middle of this month, they showed a decrease of 9 pounds or down to 1,265 pounds for the field. Many operators and companies continue, or have increased their standardization work, a considerable number of wells going on the pump each month. This work can be expected to increase from now on since pressures show that they are on the downward trend and as more "hot oil" is produced, drawing upon the reservoir pressure of the field.

There are 240 active tests in the field at present while 25 are inactive. Sixty-one wells were completed this week while 63 locations were being staked. All wells are now completed through open tubing instead of various size chokes as during previous months. This is a good indication that pressures are on the wane.

East Central Texas Wildcats

Week Ending February 26

Company, well, farm name, section and block—	Remarks
ANDERSON COUNTY	
Byrd-Frost et al's No. 1 Alice Scott, 2,200 ft. from N and 700 ft. from E lines of Joseph Crawford Sur., 1½ miles NW of Slocum	Rig.
Standard of Kansas' No. 1 A. W. Johnson, 665 ft. from N line, 420 ft. from E and W lines of 22.8-ac. tract, Simon Sanches Sur.	Derrick.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 fee, 1,400 ft. from N and E lines of survey, Samuel Snider Sur.	Cored from 4,071 ft. to 4,088 ft.; Recovered 4 ft. of shale and 12 ft. of saturated sand; set csg
Tide Water Oil Co.'s No. 4 Monnig, 1,866 ft. due S of No. 1 Simon Sanches Sur.	Drlg. 4,359 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 5 Monnig, 2,799 ft. N and 933 ft. E of No. 1, Simon Sanches Sur. No. 1	Waiting on cmt. to set 2,050 ft.
BOWIE COUNTY	
R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.
CHEROKEE COUNTY	
A. R. Lewis et al's No. 1 J. Bradford, 1,600 ft. from W line and 200 ft. from N line of 50-ac. tract, J. Laprella Sur.	Derrick.
A. F. Richardson's No. 1 P. Wood, 660 ft. from N line, 1,300 ft. from E line of 493-ac. tract, 14 miles E of Jacksonville, on Cherokee-Rusk County line, Ignacia Sanches Sur.	Derrick.
FANNIN COUNTY	
L. Kean et al's No. 1 L. M. Boyd, 900 ft. from E line and 200 ft. from N line of survey, W. Hunt Sur.	S.D. 1,310 ft.
FREESTONE COUNTY	
Clyde Creighton's No. 1 Holly Bros., 554 ft. from W and center N and S lines of lease, A.B.&M. Sur.	T.D. 5,140 ft.
GREGG COUNTY	
George Carver's No. 1 R. M. Wood, 2,250 ft. from S line and 100 ft. from W line of survey, H. R. Hokit Sur.	Rig up.
Idaho Oil Corp.'s No. 1 Dickson, 150 ft. from N line and 330 ft. from W line of 20-ac. lease, William Hester Sur.	Rig up.
J. V. Pierce's No. 1 Tom Shaw, 3,206 ft. from N line and 8,050 ft. from W line of survey, M. V. Winkle Sur.	Swabbing; T.D. 3,560 ft.
Max Rubin's No. 1 Sam Burton, 330 ft. out of NW cor. of 100-ac. lease, D. Sanches Sur.	Drlg. 2,915 ft.
HENDERSON COUNTY	
Roy Black et al's No. 1 C. B. Meredith, 360 ft. from N and W lines of 64.5-ac. tract, 4 miles SE of Malakoff, Wiley Kay Sur.	Location.
Campbell and Champlin's No. 1 R. S. Ansley, 108 varas S, 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur.	Derrick.
Humble Oil & Refining Co. and Gulf Production Co.'s No. 1 Cook and Richardson, 1,000 ft. from N line and 1,000 ft. from E line of 225-ac. tract, 2 miles S of Trebla, Earl Pierce Sur.	Location.
HUNT COUNTY	
Meade and McKennie's No. 1 Love, 800 ft. from N line, 6,300 ft. from W line of 95-ac. tract, John Gilisky Sur.	Rig up.
KAUFMAN COUNTY	
W. J. Lewis et al's No. 1 D. Clark, 430 ft. from S line and 600 ft. from E line of survey, 6½ miles NW of Elmo	Shut down.
LAMAR COUNTY	
Cole et al's (formerly Optometrist Oil Club) No. 1 J. M. McFaddin, 450 ft. from S and W lines of E 25-ac. tract, 10 miles NW of Paris, Joseph Dick Sur.	Cleaning out 2,506 ft.
LEON COUNTY	
Cooper et al's No. 1 W. H. Cozart, 1,000 ft. from SE cor. of 266-ac. tract in SW part of county, Thomas Gardner Sur.	Rig up and S.D.
Gholson Drilling Co.'s No. 1 Alliance Trust Co., 330 ft. S and E of Humble's Alliance Trust Co. 3,000-ac. tract, Simon Sanches Sur. No. 9	Location.

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Initial production of the wells also point to lower potentials in same.

B. F. Phillips and others abandoned their No. 1 D. A. Fleet in the Charles Cooper Survey, on the northwest edge of the field in Upshur County this week. It topped the sand at 3,698 feet. Total depth is 3,700 feet.

New Federal Suit

Federal Judge Wilson of Fort Worth will hear application of B. H. Rogers of Oklahoma City for a temporary order restraining the Railroad Commission from interfering with the drilling of a well on the three-acre strip in Rusk County, at 10 a. m., March 2. Rogers contends the commission arbitrarily refused him a permit to drill two test wells on the strip, and claims two offset wells on adjacent property are draining his lease. This is the first case of this kind to be heard in a Federal court.

COMPLETIONS IN EAST TEXAS

Cherokee County

Droppleman Development Co.'s No. 1 Annie Kelly, top sand 3,685 feet, initial production 80 bbls. per hour in 45 minutes through open tubing, total depth 3,690 feet.

North Gregg County

Arkansas Fuel Oil Co.'s No. 3 W. E. Batten, top sand 3,507 feet, initial production 45 bbls. in one-half hour through open tubing, total depth 3,521 feet; No. 8-B D. B. McPherson, top sand 3,491 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,516 feet; No. 4-A S. G. Smith, top sand 3,466 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,487 feet. Atlantic Oil Producing Co.'s No. 7 A. V. Bacle, top sand 3,632 feet, initial production 125 bbls. per hour through open tubing, total depth 3,653 feet; No. 42 Moore (drilled deeper from 3,541 feet), initial production 55 bbls. in one-half hour through open tubing, total depth 3,556 feet. Atlantic and Sun Oil Co.'s No. 56 M. Hayes, top sand 3,484 feet, initial production 125 bbls. per hour through open tubing, total depth 3,538 feet. Bond and Dillard's No. 14 J. C. Barrett, top sand 3,633 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,676 feet.

Deep Rock Oil Co.'s No. 7 Jones, top sand 3,588 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,646 feet. Galvez Oil Co.'s No. 6 M. O. Sheppard, top sand 3,542 feet, initial production 85 bbls. per hour through open tubing, total depth 3,567 feet. J. C. Hawkins' No. 2 Shiloh School Lot, top sand 3,644 feet, initial production 41 bbls. in one-half hour through open tubing, total depth 3,668 feet. Humble Oil & Refining Co.'s No. 12 A. D. Johnson, top sand 3,608 feet, initial production 75 bbls. through three-quarters inch tubing choke, total depth 3,615 feet. Lechner and Hubbard's No. 3-A J. B. Doby, top sand 3,572 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,590 feet. Woodley-Atlantic and Sun Oil Co.'s No. 9 M. Hayes, top sand 3,519 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,549 feet.

South Gregg County

Delta Drilling Co.'s No. 2 A. L. Still, top sand 3,488 feet, initial production 25 bbls. per hour by heads, total depth 3,531 feet. General Crude Oil Co.'s No. 4 J. M. Blackman, top sand 3,610 feet, initial production 75 bbls. per hour through open tubing, total depth 3,617 feet. Gulf Production Co.'s No. 20 G. W. Culver, top sand 3,500 feet, initial production 20 bbls. per hour through open tubing, total depth 3,539 feet. Johnston and Owens' No. 5-B M. T. Cole, top sand 3,505 feet, initial production 60 bbls. in one-half hour through open tubing, total depth 3,523 feet. C. H. Lyons' No. 2 Ray, top sand 3,600 feet, initial production 80 bbls. per hour through open tubing, total depth 3,610 feet. Shell Petroleum Corp.'s No. 3 H. T. Elder & Sons, top sand 3,514 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,556 feet. Texas Co.'s No. 8 Baxter, top sand 3,615 feet, initial production 62 bbls. per hour through open tubing, total depth 3,655 feet. Tide Water Oil Co.'s No. 11 C. G. Storey, top sand 3,594 feet, initial production 6 bbls. in five minutes through open tubing, total depth 3,603 feet.

North Rusk County

Bay Oil Co.'s No. 7 W. P. Moore, top sand 3,796 feet, initial production 88 bbls. per hour through open tubing, total depth 3,800 feet. Friedman Oil Corp.'s No. 2 Howard, and Kirby, top sand 3,703 feet, initial production 65 bbls. per hour through open tubing, total depth 3,706 feet. Gulf Production Co.'s No. 4 W. A. Hindman, top sand 3,646 feet, initial production 65 bbls. through ¾-inch tubing choke, total depth 3,674 feet; No. 8 Aurelia Laird, top said 3,612 feet, initial production 77 bbls. per hour through open tubing, total depth 3,630 feet. Humble Oil and Refining Co.'s No. 44-B S. S. Laird, top sand 3,552 feet, initial production 80 bbls. per hour through open tubing, total depth 3,622 feet;No. 47-B S. S. Laird, top sand 3,535 feet, initial production 53 bbls. per hour through open tubing, total depth 3,617 feet. Lewis and Selby Oil and Gas Co.'s No. 6 S. B. Wells, top sand 3,652 feet, initial production 25 bbls. in one-fourth hour through open tubing, total depth 3,660 feet.

Navarro Oil Co.'s 6o. 5 J. N. Peterson, top sand 3,622 feet, initial production 75 bbls. per hour through open tubing, total depth 3,633 feet. Shoreline Oil Co.'s No. 3 Brightwell, top sand 3,622 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,632 feet. Tide Water Oil Co.'s No. 7 Wm. Jernigan, top sand 3,680 feet, initial production 30 bbls. in one-fourth hour through open tubing, total depth 3,698 feet; No. 13 H. P. Leverett, top sand 3,706 feet, initial production 30 bbls. in one-fourth hour through open tubing, total depth 3,798 feet.

South Rusk County

American Liberty Oil Co.'s No. 3 W. P. Keeling, top sand 3,680 feet, initial production 16 barrels in one-fourth hour through open tubing, total depth 3,708 feet. Combined Oil Interests' No. 19 G. W. Eaton, top sand 3,753 initial production 150 bbls. per hour through open tubing, total depth 3,766 feet. Humble Oil and Refining Co.'s No. 7 Sol Dennis, top sand 3,757 feet, initial production 76 bbls. per hour through open tubing, total depth 3,810 feet; No. 11 P. R. Guerin, top sand 3,748 feet, initial production 74 bbls. per hour through open tubing, total depth 3,783 feet; No. 21 J. W. Turner, top sand 3,598 feet, initial production 75 bbls. through ¾-inch tubing choke, total depth 3,690 feet. Sherman Hunt and others' No. 2 W. H. Frederick, top sand 3,577 feet, initial production 20 bbls, in 2 hours pumping, total depth 3,672 feet.

Mid-Kansas Oil and Gas Co.'s No. 65 Grissom, top sand 3,620 feet, initial production 100 bbls. per hour through open tubing, total depth 3,680 feet. Pansey Oil Co.'s No. 2 W. S. Frederick, top sand 3,559 feet, initial production 20 bbls. in 3 hours pumping, total depth 3,640 feet. Perry and others' No. 1 Brown and Chisum, top said 3,652 feet, initial production, no oil, 15,000,000 to 20,000,000 feet of gas, total depth 3,671 feet (L. N. Sparks Survey). Sanders and others' No. 1 M. Lee, top sand 3,616 feet, initial production 350 bbls, in 28 hours and 3,000,000 feet of gas, total depth 3,628 feet (J. H. Sparks Survey). Sayre Oil Co.'s No. 5 J. P. Cansler, top sand 3,730 feet, initial production 18 bbls. in one-half hour through open tubing, total depth 3,780 feet. Sinclair Prairie Oil Co.'s No. 10-B Mayfield, top sand 3,605 feet, initial production 30 bbls. in one-fourth hour through open tubing, total depth 3,618 feet. Willard Oil Co.'s No. 4 J. R. Alford, top sand 3,599 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,550 feet.

Smith County

Groveman and others' No. 1 Denton, top sand 3,730 feet, initial production 70 bbls. per hour through open tubing, total depth 3,733 feet. Gulf Production Co.'s No. 9 Jack Wiley, top sand 3,676 feet, initial production 60 bbls. per hour through three-quarters inch tubing choke, total depth 3,696 feet. M. H. McMurray's No. 4 G. A. Turner, top sand 3,811 feet, initial production 75 bbls. per hour through open tubing, total depth 3.812 feet. Sinclair Prairie Oil Co.'s No. 25-A A. J. Jarvis, top sand 3,680 feet, initial production 38 bbls. in one-quarter hour through open tubing, total depth 3,695 feet; No. 10 A. Wiley, top sand 3,797 feet, initial production 24 bbls. in one-half hour through open tubing, total depth 3,805 feet.

Upshur County

General Crude Oil Co.'s No. 5 R. Williams, top sand 3,652 feet, initial production 50 bbls. per hour through open tubing, total depth 3,657 feet. C. G. Glasscock's No. 3 Webb, top sand 3,691 feet, initial production 150 bbls. per hour through open tubing, total depth 3,703 feet. B. F. Phillips and others' No. 1 D. A. Fleet, top sand 3,698 feet, dry and abandoned, total depth 3,700 feet, Charles Cooper Surevy. Rancho Oil Co.'s No. 7 H. W. Moyers, top sand 3,635 feet; initial production 70 bbls. per hour through open tubing, total depth 3,655 feet. Sabinas Oil Corp.'s No. 10-C Collins, top sand 3,640 feet, initial production 90 bbls. per hour through open tubing, total depth 3,660 feet. Sun Oil Co.'s No. 14 J. Hargraves, top sand 3,673 feet, initial production 22 bbls. in one-half hour through open tubing, total depth 3,676 feet.

Wildcat Completions

Syam Oil Co.'s No. 1 R. H. Mays, top Pecan Gap 2,217 feet, base 2,353 feet, top Austin chalk 3,030 feet, base 3,507 feet, top Woodbine sand 3,830 feet, top sand 3,886 feet, tested salt water on drill stem test, dry and abandoned, total depth 3,945 feet.

Tax Exemption to Be More Difficult to Get Under Revised Revenue Act

Revenue leaks in the tax exemptions allowed on gasoline and lubricants have proved costly to the Federal Government and to the oil industry because of abuses practiced through liberalities in the original revenue act. These will end if the House acts favorably upon recommendations made to it by the Ways and Means Committee. The administrative provisions of the new bill appear in full as follows:

"A new section (Section 603) has been added to the bill which amends the provisions of the Revenue Act of 1932 with respect to taxes on lubricating oils and gasoline. The provisions allowing tax-free sales, under certificate, of articles for further manufacture and articles to be resold to states have been much abused in the case of these two commodities because of the irresponsibility of many of the purchasers. A manufacturer is now allowed to return no tax on a sale to another manufacturer who gives a certificate that the article is to be resold by the second manufacturer or used in further manufacture. A large tax loss results from failure of the second manufacturer, who may be a dishonest or fly-by-night concern, to pay the tax. A similar situation exists under the provision allowing dealers to purchase tax-free for resale to another manufacturer, or to a state or municipality. The amendment made by the bill provides that the first manufacturer may take credit against his return, or may be allowed a refund, of tax on any oil or gasoline when a second tax has actually been paid on the oil or gasoline or any article into which it entered. Under existing law a credit or refund is provided for when a dealer resells an article to a state, and a manufacturer's direct sales to a state are not taxed. In any case, the credit or refund is conditioned on a satisfactory agreement between the manufacturer and the vendee. The change in the law means, in effect, that relief from the tax, to avoid double taxation or burdening state or municipal business, depends on proof that the second tax has actually been paid or that the article has actually been sold to a state, and not on a mere anticipation of such a second payment or sale.

"The change will result in increased revenue and it is not believed that it will impose any burden on legitimate transactions comparable to the benefit which the legitimate manufacturers and dealers will get from the elimination of the unfair competition of products that have evaded the tax. It should be pointed out that ordinarily the manufacturer can have his proof for the credit before the time for returning and paying the tax on his sale, and the tax, if it has been charged by him to the purchaser, can be credited to the purchaser either before his account is payable or on a current transaction, so that the only real additional burden is the extremely reasonable requirement of conclusive proof of the right to relief from the tax.

"As a further safeguard against the operations of the dishonest and irresponsible concerns which have appeared in the gasoline and lubricating oil trade, taxpayers are required to register and post bond.

"The definition of 'gasoline' is changed by eliminating the test of whether the commodity is chiefly used as fuel for motor vehicles, motor boats, or airplanes, and making the term inclusive of all commodities sold or used for that purpose. Lack of proof of quantities used for different purposes has made the 'chief use' test impossible of satisfactory administration.

"A change in the phrasing of the clause imposing the gasoline tax makes certain the ineffectiveness of a device which certain concerns have resorted to in an effort to avoid the tax. A producer with large stocks will transfer title to his plant, and claim that he is no longer liable as 'a producer' for tax on his sales. It seems desirable to clarify the section on this point by including sales by 'the producer.'"

West Texas Fields

(Continued from Page 43)

Pipe line runs averaged 59,090 bbls. per day during the week, an increase of 1,511 bbls. per day over the past week.

PANHANDLE

The Railroad Commission deputies have issued a new schedule, which became effective at 7 a. m. February 21, to give this district its full allowable for the month. The new proration factor is 25 per cent of its potential. It was found that the area lagged behind its new top allowable of 52,000 bbls. daily with production prorated on a basis of 17.03 per cent of potential. This week, however, the field produced a little over its daily allowable, running 52,317 bbls. per day from 1,982 wells. This was a daily increase of 5,013 bbls. over the past week's daily average figures.

In the Osborne-Admire Area, 7 miles east of Shamrock, which was recently revived by a good well, leasing and royalty buying has been brisk, and two tests are now drilling. The Piney Oil and Gas Co. is putting down a test on the Mankins ranch in Section 54, Block 13, I.&G.N. Survey and Meyers and Kennedy one in Section 67, Block 13. This is about 1½ miles north of the Osborne well. The Piney test is an offset to Osborne No. 1 Admire. Other

permits are expected to be taken out immediately. The Admire test is producing from the dolomite, and is in eastern Wheeler county.

COMPLETIONS IN WEST TEXAS

Ector County

Broderick and Calvert and others' No. 1-K E. F. Cowden, plugged and abandoned, total depth 4,504 feet.

Glasscock County

Schermerhorn Oil Co.'s No. 2 Kloh, dry and abandoned, total depth 2,539 feet.

Howard County

Pure Oil Co.'s No. 14 Chalk, pay 1,635-38 feet, increase 1,666-79 feet, initial production 4.39 bbls. per hour pumping, total depth 1,780 feet.

Jones County

Roberts Oil Corp.'s No. 2 Swan, top pay 2,542 feet, initial production 40 bbls. per day, total depth 2,549 feet, treated with acid.

Pecos County

M. H. Black and others' No. 1 E. C. Powell, plugged and abandoned, total depth 1,610 feet.

Reagan County

Big Lake Oil Co.'s No. 14-C University, top Ellenburger lime 8,336 feet, initial production 624 bbls. in 24 hours, total depth 8,459 feet.

COMPLETIONS IN NORTH TEXAS

Archer County

C. W. Boller and others' No. 19-A Perkins, lime 1,389-99½ feet, initial production 95 bbls., total depth 1,399½ feet, treated with acid. Bridwell Oil Co.'s No. 2-E Falls County School Lands, lime 1,105-15 feet, initial production 700 bbls., total depth 1,115 feet, treated with acid. Burns and Long's No. 4 Mankins, oil sand 668-75 feet, initial production 5 bbls., total depth 675 feet. F. P. Cullum's No. 11 Falls-Ellis, lime 1,103-69 feet, initial production 70 bbls., total depth 1,169 feet, treated with acid. Cullum and Alexander's No. 5 Falls-Gulf, lime 1,093-99 feet, initial production 260 bbls. in six hours, total depth 1,099 feet, treated with acid. W. B. Hamilton's No. 10 Coffield, lime 1,245-64 feet, initial production 700 bbls., total depth 1,264 feet, treated with acid; No. 11 Pace, lime 1,165-70 feet, initial production 212 bbls., total depth 1,170 feet, treated with acid. W. L. Hawkins' No. 3 W. P. Pace, oil sand 1,195-99 feet, initial production 10 bbls., total depth 1,199 feet.

Humble Oil & Refining Co.'s No. 1-A Longley, dry and abandoned, total depth 1,242 feet. J. C. Jennings and others' No. 1 Birdwell, dry and abandoned, total depth 750 feet. Jess Lincoln's No. 7 Ray, oil sand 1,118-31 feet, initial production 75 bbls., total depth 1,131 feet. M. H. Martin & Sons' No. 1 McAnnally, dry and abandoned, total depth 1,450 feet. Palmer and Burch's No. 1 O'Donohoe, dry and abandoned, total depth 1,600 feet. Perkins and Cullum's No. 9 Hanzen, lime 1,081-1,101 feet, initial production 75 bbls. per hour, total depth 1,101 feet, treated with acid. Simms Oil Co.'s No. 1-B Perkins, lime 1,384-91 feet, initial production 30 bbls., total depth 1,391 feet, treated with acid.

Texas Co.'s No. 3 Anderson, oil sand 934-39 feet, initial production 25 bbls., total depth 939 feet. J. Stump & Co.'s No. 6-B Wilson, dry and abandoned, total depth 1,521 feet.

Denton County

W. H. Russell and Vern Clopton's No. 1 Gregory, dry and abandoned, total depth 1,650 feet.

Jack County

Brazos River Gas Co.'s No. 3-B Keyser, oil sand 2,895-2,912 feet, initial production 400 bbls., total depth 2,912 feet; No. 1 King, oil sand 2,875-2,900 feet, initial production 800 bbls., total depth 2,900 feet.

Montague County

Bridwell Oil Co.'s No. 2 B. Bigley, lime 1,766-84 feet, initial production 45 bbls. per hour swabbing, total depth 1,184 feet.

Wichita County

A. T. Wolfe's No. 3-A Daume, dry and abandoned, total depth 756 feet.

Wilbarger County

Stanolind Oil & Gas Co.'s No. 4-A Waggoner, dry and abandoned, total depth 2,413 feet.

Young County

Belknap Oil Co.'s No. 6-B Belknap Coal Co., oil sand 681-84 feet, initial production 100 bbls., total depth 684 feet. Fred Clairda's No. 1 fee, dry and abandoned, total depth 1,005 feet. Golding and Cochran's No. 1 Finch, dry and abandoned, total depth 866 feet. Holbrook and Wood's No. 12 Cullers, oil sand 540-50 feet, initial production 10 bbls., total depth 550 feet. Invincible Oil Co.'s No. 1 Morrison, lime 3,831-42 feet, initial production 6 bbls., total depth 3,842 feet. C. J. Kleiner's No. 6 Belknap Coal Co., oil sand 695-704 feet, initial production 100 bbls., total depth 704 feet; No. 8 Belknap Coal Co., oil sand 693-98 feet, initial production 200 bbls., total depth 698 feet. William Nichols' No. 1 Routan, dry and abandoned, total depth 751 feet; No. 2 Routan, dry and abandoned, total depth 7,550 feet. T. G. Shaw Oil Corp.'s No. 4 Marshall, oil sand 895-99 feet, initial production 25 bbls., total depth 928 feet. Sheldon and Brazelton's No. 1 Barnett and Gilbs, dry and abandoned, total depth 730 feet.

COMPLETIONS IN RANGER

Brown County

Jane-Ellen Gas Co.'s No. 1 Charles Griffin, gas pay 1,053-68 feet, initial production 10,000,000 feet of gas, total depth 1,068 feet. George Lamb and Fred Turner's No. 1 F. M. Turner, plugged and abandoned, total depth 2,772 feet.

Coleman County

Arcadia Refining Co.'s No. 2 E. M. Moore, sand 334-42 feet, initial production 250,000 feet of gas, total depth 347 feet. Armstrong and others' No. 1 Grayson, sand 1,517-25 feet, initial production 1,000,000 feet of gas, total depth 1,525 feet. Centennial Oil & Gas Co.'s No. 1 Brooks and Burleson, total depth 3,987 feet, plugged back to 3,840 feet, dry and abandoned.

Shackelford County

Freeman-Hampton's No. 3 J. P. Morris, dry and abandoned, total depth 1,606 feet. L. A. Grelling's No. 1 W. Y. and R. A. Davis, dry and abandoned, total depth 1,730 feet.

Standard Contract Forms on Commercial Accounts

(Continued from Page 13)

each of two integrated companies and a representative of a nonintegrated company, for the purpose of investigating and negotiating for the restoration of the tank wagon market where competitive conditions as above referred to have resulted in destroying the normal relationship between service station and tank wagon prices. Upon receipt of a complaint said committee shall promptly investigate the facts, giving all parties concerned a hearing, and shall negotiate with said parties for the restoration of markets. If said committee is unable to restore markets to normal by negotiation it shall place the facts before the Planning and Co-ordination Committee, sending a copy of its report to the regional chairman for marketing and the regional chairman. The Planning and Co-ordination Committee shall consult with the Petroleum Administrative Board and the petroleum administrator and may make a recommendation that the petroleum administrator take whatever action may be deemed advisable.

Discounts Allowed

Discounts, as hereinafter set forth, from the tank wagon price may be given on gasoline or other motor fuel (excluding kerosene, furnace oil, distillate, tractor fuel or Diesel fuel) on the following terms and conditions:

2. A commercial consumer is any person who buys gasoline and/or other motor fuel on the contract quantity basis, hereinafter set forth, for consumption only, and not for resale, in whole or in part, to his employes or any other person. No commercial discounts shall be allowed persons combining their purchases or participating in any plan or device having that effect. The term "person" shall include natural persons, partnerships, associations, trusts, including trustees in bankruptcy and receivers and corporations.

3. Official forms of contract approved by the Planning and Co-ordination Committee must be executed covering all sales in which a consumer's commercial discount is granted.

4. Deliveries must be made from tank wagons, tank trucks, or at bulk storage or terminal plants, into storage containers of the purchaser. No deliveries shall be made in violation of Rule 18 of Article 5.

5. Discounts from seller's authorized tank wagon price shall be as follows:

	—Off tank wagon price— classifications	
Deliveries—	60 octane and above	Below 60 octane
From 3,000 to 10,000 gals. per month (per gal.)	$.01	$.005
Over 10,000 gals. per month (per gal)	$.02	$.01

In lieu of discounts on tank car, barge and ship sales, these shall be on a spot sales price basis, the official form of contract for commercial consumers to be used.

6. In determining whether a purchaser is entitled to a discount and the amount of the discount, the two classifications above set forth shall not be combined but shall be treated separarately, each as though no delivery of the other grade of gasoline had been made.

7. No discount may be paid or allowed at time of delivery but the same shall be due and payable within 25 days from the end of the month in which deliveries are made. If at the end of an annual contract period the total quantities purchased and delivered during such period, divided by twelve, entitle the purchaser to a larger discount than was actually received by the purchaser for calendar months, such difference between discounts earned and discount received, may be paid within a reasonable time after expiration of contract.

8. The regional marketing committee for each region under the code may upon a three-fourth affirmative vote and with the approval of the Planning and Co-ordination Committee establish additional commercial discounts for quantities of gasoline and other motor fuel in excess of 25,000 gallons per month for such region or part thereof.

9. No other or different commercial discounts shall be given to consumers.

10. Operations in the states of California, Oregon, Washington, Arizona and Nevada and in the territories of Hawaii and Alaska are excepted and excluded from the provisions hereof.

(Signed)

MARKETING COMMITTEE "D"

By: C. E. ARNOTT, Chairman.

Order

Whereas, Article 5, Rule 3 of the code of fair competition for the petroleum industry provides in Paragraph 7 that: "No one shall make any deviation from his posted price by means of rebates, allowances, concessions, benefits, scrip books or any other device whereby any buyer obtains any naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene or heating oil at a net lower cost than the applicable posted price; except that commercial consumers may secure gasoline, motor fuel and other oils, on contract quantity basis under conditions established by the Planning and Co-ordination Committee," and

Whereas, many refiners, wholesalers, distributors and jobbers of petroleum products have, in violation of the above quoted provision entered into contracts since August 19, 1933,

Now therefore, pursuant to the authority vested in me by the President's order of August 28, 1933, issued under the provisions of Subsection (b) of Section 2 of the National Industrial Recovery Act (Public No. 67-73 Congress), and Subsection (a) of Section 10 of Title 1 of the said act, I hereby promulgate the following regulations:

Commercial consumer contracts made since August 19, 1933, which allow discounts on a quantity basis, and all consumer contracts made since said date at flat prices or with top price provisions, are in violation of Article 5, Rule 3, Paragraph 7 of the code of fair competition for the petroleum industry and are hereby declared null and void and of no effect whatsoever.

MARKETING COMMITTEE "D"

By: C. E. ARNOTT, Chairman.

Interpretation

The marketing committee "D" recommend the promulgation of an interpretation of Article 5, Rule 3, Paragraph 7, as follows:

Article 5, Rule 3, Paragraph 7

"For the purpose of determining the applicable posted price as required in Paragraph 7, Rule 3, Article 5, dealing with the posting of prices and the prohibition against deviation in their application, this interpretation establishes the fact that a reseller, in order to qualify for the schedule of prices posted for resellers, must actually resell not less than 85 per cent of the gasoline or other motor fuel purchased."

MARKETING COMMITTEE "D"

By: C. E. ARNOTT, Chairman.

DECEMBER IMPORTS

The following statistics of imports of petroleum and its products for the month of December, 1933, are furnished by the U. S. Department of Commerce:

	Bbls.
Petroleum, crude	2,876,192
Fuel oil, incl. topped petroleum	859,148
Unfinished distillates n.e.s.	0
Gas oil	44
Paraffin oil, not lubricating	4
Liquid derivatives of petroleum, n.e.s.	3,404
Gasoline and other motor fuel	752
Finished light products, n.e.s.	0
Naphtha, not motor fuel	145
Illuminating oil, kerosene	856
Lub. oils, including paraffin oil	612
	Pounds
Paraffin and paraffin wax	6,778,596

Pipe Line Construction

MINNEAPOLIS-ST. PAUL PROJECT

Application for a loan to finance the construction of a natural gas line from Montana fields to supply Minneapolis and St. Paul, Minn., have been made to the Federal Government, according to C. I. Tenney, president of the Willmar (Minn.) Gas Co., controlled by Continental Public Utilities Corp., Minneapolis, of which Mr. Tenney is a director. The cost of the project is estimated at $17,000,000 and the proposed line would go through Willmar en route to Minneapolis-St. Paul.

TENNESSEE GAS LINES

Public Service Corp. of Tennessee, controlling a number of gas franchises in towns of eastern Tennessee, expects to launch a line construction program in that area, according to J. H. Graham, president. The company's headquarters is in Sunbright, Tenn. It is the holding organization for Rock Creek Oil Co., which will handle production; Sunbright Pipe Line Co., the transportation company, and the Harriman Gas Co., gas distribution. Officers, in addition to Mr. Graham, are Dr. S. H. Jones, vice president, and Mrs. Wilhelmina Andrews, secretary. T. M. Kingsbury is consulting engineer and H. W. Young field superintendent.

Through the Sunbright Pipe Line Co. the organization expects to begin construction of about 160 miles of line from the Sunbright Field.

Wildcat Operations in West Texas

(Continued from Page 43)

Merry Bros. and Perini's No. 1 J. J. Steele, 330 ft. E and 150 ft. N of SW cor. NE Sec. 210, B.B.B.&C. R.R. Sur. ..... Well began making water after acid treatments; T.D. 2,945 ft.

E. L. Smith Oil Co.'s No. 1 fee, 450 ft. from S and 330 ft. from E, Sec. 203, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 2,400 ft.

Reeser & Pendleton's No. 2 Frank Steele, 1,470 ft. from S and 990 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 770 ft.

Sinclair Prairie Oil Co.'s No. 3 Frank Steele, 990 ft. from N and 330 ft. from E line of Sec. 72, Blk. 1, H.&T.C. Sur. ..... Drlg. 1,275 ft.

Stanolind Oil & Gas Co.'s No. 3 F. Steele, 660 ft. from S and 2,310 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 2,040 ft.

Stanolind Oil & Gas Co.'s No. 4 Steele, 1,170 ft. from S and 1,650 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 760 ft.

Southern's No. 1 King, 660 ft. from N and 330 ft. from W line of SW Sec. 193, B.B.B.&C. Sur. ..... S.D. 1,585 ft.

Texas Inland Oil & Gas Co.'s No. 1 First National Bank of Hamlin, 1,980 ft. from N and 990 ft. from W, Sec. 191, Blk. 1, B.B.B.&C. Sur. ..... S.D. 2,985 ft.

Texas Co.'s No. 4 T. A. Jean, 990 ft. from N and E lines of Sec. 201, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 1,035 ft.

GAINES COUNTY

R. H. Gill et al's No. 1 Crews, 1,320 ft. from S and 1,320 ft. from W line of Sec. 9, Blk. A-36, P.S.L. Sur... Prepare to plug; T.D. 4,993 ft.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 1 Gilbreath, 330 ft. from N line and 1,980 ft. from E line of Sec. 34, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Prepare to pump; T.D. 2,530 ft.

Empire Gas & Fuel Oil Co.'s No. 3 Hall, 330 ft. from N and W lines of Sec. 21, Blk. 33, Twp. 3s, T.&P. Sur. ..... Moving over 75 ft. E and 40 ft. S.

Humble Oil & Ref. Co.'s No. 4 Arrington, 330 ft. from N line and 990 ft. from W line, Sec. 23, Blk. 33, Twp. 2s, T.&P. Sur. ..... Rig up to pump; T.D. 2,280 ft.

Shell Pet. Corp.'s No. 3-A Kloh, 660 ft. from E and 330 ft. from S line, Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur... Drlg. 2,196 ft.

Simms Oil Co.'s No. 5-A R. C. Coffee, 1,002 ft. from the W line and 1,270 ft. from the S line of Sec. 15, T.&P. Sur., Blk. 33, Twp. 2s ..... Drlg. 1,570 ft.

HOWARD COUNTY

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co. 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s .... Location.

Humble Oil & Ref. Co.'s No. 2 Bettles, 990 ft. from W and 330 ft. from S, Sec. 132, Blk. 29, W.&N.W. Sur. ... Drlg. 1,023 ft.

Merrick & Lamb's No. 10 Chalk, 1,650 ft. from W and 2,310 ft. from N, Sec. 125, Blk. 29, W.&N.W. Sur. .... Waiting to test; T.D. 1,819 ft.

Joe Rusk et al's No. 3 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s ..... Rig up to pump; T.D. 2,863 ft.

Schermerhorn Oil Co.'s No. 8 Kloh, 1,650 ft. from S and 330 ft. from W, Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... T.D. 2,225 ft.

Sinclair Prairie Oil Co.'s No. 1 Perry Jones, 2,310 ft. from W and 330 ft. from N, Sec. 9, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... Drlg. 485 ft.

Sinclair Prairie Oil Co.'s No. 10 Dodge, 2,310 ft. from S and 330 ft. from E, Sec. 1, Blk. 30, Twp. 1s, T.&P. R.R. Sur. ..... Set pipe; T.D. 2,360 ft.

Sloan & Lewis' No. 1 Daniell, 2,475 ft. from E and 330 ft. from S of Sec. 18, Blk. 31, Twp. 1n, T.&P. Sur.... Moving in material.

Southern Oil Co.'s No. 1 Denman, 2,310 ft. from N line and 330 ft. from W line of Sec. 10, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... S.D. 1,965 ft.

Sun Oil Co.'s No. 6 Phillips, 1,650 ft. from S and 330 ft. from E, Sec. 14, Blk. 33, Twp. 2s, T.&P.R.R. ..... T.D. 805 ft.; to move in rotary.

IRION COUNTY

Williams-Short's No. 1 Gentry, 1,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur... S.D. 835 ft.

JONES COUNTY

Clay & Lancaster's No. 2 Brewer, 700 ft. S and 150 ft. E of NW cor. of J. W. Martin Sur. ..... Rig up and S.D.

Elmer Close et al's No. 1 A. B. Faulks, 330 ft. from N line and 230 ft. from W line of Subdiv. No. 27, Henry Millard Sur. ..... S.D. 1,400 ft.

C. C. Julian Rec.'s No. 4 Swan, 2,160 ft. from N line and 1,320 ft. from W line, L. Miley Sur. No. 281 .... Rig up.

Jack Roberts' No. 3 Swann, 1,200 ft. from S and 1,600 ft. W of SE cor. of L. Miley Sur. ..... T.D. 2,549 ft.; will treat with acid.

Southern Oil Corp.'s No. 2 Williams, 330 ft. from S and W line of Sec. 17, Blk. 19, T.&P. Sur. ..... Machine.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 32, Blk. 32, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 32, Blk. 32, H.&T.C. Sur. .... Location.

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 32, Blk. 32, H.&T.C. Sur. .... Location.

R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 32, Blk. 32, H.&T.C. Sur. ... Location.

Eppenauer Drlg. Co.'s No. 2-A Allen, 330 ft. from SE and 1,650 ft. from SW, Sec. 4, Blk. 3, W.&N.W. Sur... S.D. 4,116 ft.

William Littlie's No. 1 Reichard & Dehle, 1,320 ft. from NE and 1,120 ft. from SE line of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Drlg. 1,280 ft.

Sinclair Prairie Oil Co.'s No. 1 Allen, 330 ft. from SE lines and 990 ft. from SW lines of Sec. 4, Blk. 3, W.&N.W. Sur. ..... Running tubing; T.D. 4,301 ft.

Sinclair Prairie Oil Co.'s No. 2 Bell, 410 ft. from SE and 1,025 ft. from NE of Sec. 91, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,670 ft.

Texas Pacific Coal & Oil Co.'s No. 1 Carmine, C of SE of SW of Sec. 40, Blk. 54, Twp. 1, T.&P. Sur. ..... Drlg. 1,495 ft.

PECOS COUNTY

California Oil Co.'s No. 28 Yates, 215 ft. W of No. 1 Reid, Sec. 34, Blk. 194, G.C.&S.F. Sur. ..... S.D. 1,149 ft.

California Oil Co.'s No. 14 Mrs. M. A. Smith Lease No. 3, 2,028 ft. from the S line and 1,650 ft. from the E line of Sec. 35, H.&T.C. Sur., Blk. 194 ..... Bldg. rig.

Cardinal Oil Co.'s No. 17-E Tippett, 150 ft. from E line of W half and 720 ft. from N of No. 5-E, Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Waiting on cmt. to set; T.D. 481 ft.

Cardinal Oil Co.'s No. 18 J. H. Tippett, 850 ft. from N and 531 ft. from W of the SE cor. of the W half of Sec. 40, G.C.&S.F. Sur., Blk. 194 ..... T.D. 534 ft.; show oil 490-512 ft.; est. 8 bbls.

Cardinal Oil Co.'s No. 19-E Tippett, 519 ft. from W and 280 ft. from N of the C of Sec. 40, Blk. 194, G.C. &S.F. Sur. ..... Location.

Culberson Bros.'s No. 16-15 Monroe, 725 ft. from N line and 1,320 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Humble Oil & Ref. Co. and Phillips Pet. Co.'s No. 1 J. L. Nutt, 2,960 ft. from the N line and 890 ft. from the E line of Sec. 16, T.&St.L. Sur., Blk. 125 ... Rig up.

Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur.... Drlg. 7,931 ft.

Mid-Kansas Oil & Gas Co.'s No. 10 Smith, 150 ft. from N line and 250 ft. from E line of Sec. 31, Blk. 194, G.C.&S.F. Sur. ..... Testing; T.D. 1,397 ft.

Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,294 ft. from S line, 1,320 ft. from W line, Sec. 32, G. C.&S.F. Sur., Blk. 194 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 350 ft. W of S half of Turner Tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Read.

Mid-Kansas Oil & Gas Co.'s No. 6 Fred Turner, Jr., 1642 ft. from N and 55 ft. E of N half of Tract No. 1, Fred Turner Sur. ..... Show of gas; T.D. 1,185 ft.

Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33 ..... S.D. 750 ft.

Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Cellar.

Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 350 ft. from N line and 350 ft. from W line of Turner Sur. No. 3.. S.D. 590 ft.

Mid-Kansas Oil & Gas Co.'s No. 3 Turner, 720 ft. from N and 300 ft. from W line of Turner Sur. No. 4 .... Waiting on proration test; T.D. 1,253 ft.

Mid-Kansas Oil & Gas Co.'s No. 2 Fred Turner, 535 ft. from S line and 500 ft. from W line of Tract No. 2.. T.D. 630 ft.; run casing.

Mid-Kansas Oil & Gas Co.'s No. 5 Fred Turner, 304 ft. S and 55 ft. W of the most northerly NW cor. of I. G. Yates Sur. A-8,195, but in Fred Turner, Jr., Survey, Tract No. 1 ..... T.D. 500 ft.

Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. W of SE cor. of S half of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 36-A Yates, 250 ft. N and 334 ft. W from the NW cor. of Turner Tract No. 3 in Sec. 34½, I.G. Yates Sur. ..... T.D. 1,116 ft.

Mid-Kansas Oil & Gas Co.'s No. 35-A Yates, 350 ft. E and 305 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 350 ft. W of the NW cor. of Turner Tract No. 4 in Sec. 34½, I. G. Yates Sur. ..... Cellar.

Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of S half of Turner Tract No. 1 ..... S.D. 650 ft.

Mid-Kansas Oil & Gas Co.'s No. 42-A Yates, 55 ft. E and 204 ft. S of the extreme NE cor. of lease, Sec. 34½, Blk. 194, G.C.&S.F. Sur. ..... Rig up rotary; T.D. 1,194 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 15-C University, 660 ft. from E line and 660 ft. from S line of Sec. 25, Blk. 9, University Land Sur. ..... Moving in boilers.

Group Oil Co.'s No. 16-B University, 1,980 ft. from N and 1,856 ft. from E line, Sec. 36, Blk. 9 ..... Cellar.

R. F. Kirschner and White's No. 1 W. A. White and McIntosh, 726 ft. from E and 800 ft. from N of Sec. 1,223, E.L.R.R. Sur. ..... S.D. 970 ft.

REEVES COUNTY

Hugo Freels' No. 1 B. Greenman, 330 ft. from NE line and 231 ft. from SE line of Sec. 21, Blk. 2, H.&G.N. Sur. ..... S.D. 3,985 ft.

RUNNELS COUNTY

Agnew & Sons' No. 2 Fowler, 1,165 ft. from S and 150 ft. from W of NE cor. of Blk. 23, N. Travis Sur..... Drlg. 1,193 ft.; no report.

Anderson et al's No. 1 W. F. James, 330 ft. from N and W lines of Subdiv. No. 20, Norvell Travis Sur. ..... Spudded and S.D.

Golden Pet. Corp.'s No. 3 McMillan, 780 ft. from W and 330 ft. from N of Subdiv. No. 22, N. Travis Sur. No. 533 ..... Drlg. 1,210 ft.

W. S. Sawyer et al's No. 1 Giesecke, 1,211 ft. from N and 4,606 ft. from E lines of survey, Blk. 131, James Hughes Sur. ..... Drlg. 670 ft.; no report.

Prairie Oil & Gas Co.'s No. 1 T. B. Wade, 1,597 ft. from N and 2,140 ft. from E line of Subdiv. No. 16, Norvel Travis Sur. ..... Set csg. 1,382 ft.

Wahlenmaier Pet. Co.'s No. 1 T. C. Hall, 330 ft. out of SW cor. E.T.R.R. Sur. No. 149 ..... Running csg.; T.D. 2,340 ft.

F. D. Williams' No. 1 J. L. Elkins, 2,325 ft. from E and 1,300 ft. N of SW cor. of Blk. 13, but in Blk. 13, N. Travis Sur. No. 528 ..... Drlg. 300 ft.

TERRELL COUNTY

H. H. Sides' No. 1 Phelps, 3,157 ft. from N line and 2,452 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur. ..... Fishing 5,600 ft.

TOM GREEN COUNTY

Plymouth Oil Co.' No. 1 Willeke, 1,520 ft. from S and 2,165 ft. from E line of Sec. 3, B.A.L. Sur. ..... Moving in.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W. Sec. 197, Blk. F, C.C.S.D.&R.G.N.G... Drlg. 9,011 ft.

Powell-Gap Oil Co.'s No. 1 J. F. Lane, 1,320 ft. from W line of Sec. 1, G.C.&S.F. Sur. ..... Rig up machine.

Texas Pacific Coal & Oil Co.'s No. 1-C J. H. Sherk, 1,650 ft. from S and 330 ft. from W, Sec. 1, Blk. 3-B, M.K.&T. Sur. ..... Drlg. 315 ft.

Texas Pacific Coal & Oil Co. and Simms Pet. Co.'s No. 2 J. F. Lane, 990 ft. from the S line and 330 ft. from the W line of Sec. 36, M.K.&T. Sur., Blk. 1 ... Fishing for bit.

Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur. .. Drlg. 1,155 ft.

VAL VERDE COUNTY

South-Western Exploration Co.'s No. 1 E. K. Fawcett, 2,310 ft. from S and 2,310 ft. from E, Sec. 14, Blk. L, G.C.&S.F. Sur. ..... Moving in material.

WARD COUNTY

Atlantic Oil & Prod. Co.'s No. 10 Johnson, 990 ft. from NE line and 330 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Fishing 2,335 ft.

Atlantic Oil & Prod. Co.'s No. 12 Johnson, 990 ft. from SE line and 990 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,420 ft.

Atlantic Oil & Prod. Co.'s No. 13 Johnson, 330 ft. from NE line and 330 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,807 ft.

Atlantic Oil & Prod. Co.'s No. 15 Johnson, 330 ft. from SE line and 1,650 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.

California Oil Co.'s No. 5 York, 1,650 ft. from S and 990 ft. from SW, Sec. 10, Blk. 34, H.&T.C. Sur. ..... Location.

California Oil Co.'s No. 6 J. F. York, 2,310 ft. from the NW line and 990 ft. from the SW line of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,588 ft.

S. Caprito et al's No. 2 Pure-Bennett, 990 ft. from SE and 330 ft. from NE lines of Sec. 16, Blk. 34, H.&T.C. Sur. ..... Cmtd. csg.; T.D. 2,207 ft.

Gulf Prod. Co.'s No. 41 O'Brien, 1,650 ft. from N and 990 ft. from E lines of Sec. 17, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 2,515 ft.; no report.

Gulf Prod. Co.'s No. 42 O'Brien, 2,310 ft. from N and 330 ft. from S, Sec. 17, Blk. F, G.M.M.B.&A. Sur. .... Drlg. 1,318 ft.

Humble Oil & Refining Co.'s No. 2 Louis Richter, 1,650 ft. from the NW line and 1,470 ft. from the SW line of Sec. 23, H.&T.C. Sur., Blk. 34 ..... Drlg. 1,109 ft.

Jack Leidecker's No. 2 Archenhold, 2,310 ft. from NE and 2,310 ft. from SE, Sec. 23, Blk. 5, H.&T.C. Sur... Drlg. 1,930 ft.

Jack Leidecker et al's No. 1 Shell-Sloan, 990 ft. from NE and 330 ft. from NW of Sec. 15, Blk. 5, H.&T.C. Sur. ..... Location.

Simms Oil Co.'s No. 1 W. D. Johnson, 330 ft. from the NE and SE lines of Sec. 24, H.&T.C. Sur., Blk. 34.... Testing; T.D. 2,580 ft.

Sinclair Prairie Oil Co.'s No. 4 Archenhold, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Cleaning out after shot; T.D. 3,059 ft.

Sinclair Prairie Oil Co.'s No. 5 Archenhold, 2,310 ft. from SE and 2,310 ft. from SW of Sec. 23, Blk. 5, H.&T.C. Sur. — Location.

Tex-Mex Pet. Corp. et al's No. 2 Llano-Sloan, 990 ft. from NW and 2,310 ft. from SW, Sec. 16, Blk. 5, H.&T.C. Sur. — Drlg. 407 ft.

Tex-Mex Pet. Corp.'s No. 2-B Shell-Sloan, 2,310 ft. from NE and 990 ft. from NW, Sec. 16, Blk. 5, H.&T.C. Sur. — Cellar.

Tex-Mex Pet. Corp. et al's No. 3 Cal-Archenhold, 990 ft. from NE and 330 ft. from SE, Sec. 23, Blk. 5, H.&T.C. Sur. — Location.

S. A. Thompson's No. 6 Johnson, 1,650 ft. from NW and 1,650 ft. from SW Sec. 9, Blk. 34, H.&T.C. Sur. — Prepare to run tubing; T.D. 2,530 ft.

S. A. Thompson et al's No. 7-A Johnson, 990 ft. from NW and 1,650 ft. from SW of Sec. 9, Blk. 34, H.&T.C. Sur. — Cellar.

WINKLER COUNTY

Harry Adams' No. 2 Scarborough (old well being drilled deeper), 105 ft. from N and 1,000 ft. from E, Sec. 1, Blk. 77, P.S.L. Sur. — Waiting on cmt. to set; T.D. 2,616 ft.

Magnolia Pet. Co.'s No. 4 Scarborough, 1,650 ft. from N line and 330 ft. from W line of Sec. 1, Blk. 77, P.S.L. Sur. — S.D. 2,830 ft.

Magnolia Petroleum Co.'s No. 2 Walton, 330 ft. from N and 330 ft. from E, Sec. 19, Blk. 74, P.S.L. Sur. — Fishing 2,515 ft.

McCurdy & Easter's No. 1 Scarborough, 1,650 ft. from W and 2,310 ft. from S, Sec. 1, Blk. 77, P.S.L. Sur. — Rigging up and S.D.

Sid Richardson's No. 6-A Scarborough, 330 ft. from N and 990 ft. from W, Sec. 1, Blk. 77, P.S.L. Sur. — Drlg. 3,015 ft.

Sid Richardson's No. 5-A Scarborough, 330 ft. from W and 150 ft. from S, Sec. 1, Blk. 22-C, P.S.L. Sur. — Moving in machine.

Sid Richardson's No. 2-B Scarborough, 2,310 ft. from E line and 990 ft. from S line of Sec. 18, Blk. 74, P.S.L. Sur. — Drlg. 2,295 ft.

Sid Richardson's No. 2-A State, Skelly, Scarborough, 102 ft. from N and 2,310 ft. E of NW cor. of Sec. 1, Blk. 77, P.S.L. Sur. — Drlg. 2,340 ft.

Sid Richardson et al's No. 2 State-Scarborough, 102½ ft. N and 2,310 ft. from E of the NW cor. of Sec. 1, Blk. 77, P.S.L. Sur., but located in State-Scarborough strip, Blk. WF — Drlg. 2,340 ft.

Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 1,650 ft. from E line and 990 ft. from N line of Sec. 1, Blk. 17, P.S.L. Sur. — Drlg. 2,955 ft.; no report.

Sinclair Prairie Oil Co.'s No. 1-C Scarborough, 2,310 ft. from W and 102½ ft. S of SE cor., Sec. 1, Blk. 22-C, P.S.L. Sur. — Drlg. 1,590 ft.

Wildcat Operations in Texas Panhandle

Week Ending February 26

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
American Ref. Co.'s No. 11 Burnett, 745 ft. from E line, 802 ft. from S line, Sec. 115, Blk. 5, I.&G.N. Sur.	Location.
American Ref. Co.'s No. 12 Burnett, 1,145 ft. from E line, 802 ft. from S line, Sec. 115, Blk. 5, I.&G.N. Sur.	Location.
Huber Pet. Co.'s No. 1 Burnett, C SW Sec. 123, Blk. 5, I.&G.N. Sur.	Drlg. 2,405 ft.
Skelly Oil Co.'s No. 25 (West) Schaffer, 1,320 ft. from S line, 2,200 ft. from W line of Sec. 87, Blk. 4, I.&G.N. Sur.	Fishing 3,150 ft.; 1,500 ft. of oil in hole.
United Crude Oil Corp.'s No. 3 Cooper, 330 ft. from N line, 310 ft. from E line, SE Sec. 5, Blk. 9, I.&G.N. Sur.	Rig up.

CHILDRESS COUNTY

Humble Oil & Ref. Co.'s No. 1 B. P. Smith, 1,327 ft. from S line and 1,327 ft. from E line of Sec. 27, H.&G.N. Sur., Blk. 9	Location.

DALLAM COUNTY

Eben Warner's No. 1 Jarboe, 1,530 ft. from S line, 415 ft. from W line, Sec. 2, Blk. 2, B.&B. Sur.	S.D. 2,100 ft.

GRAY COUNTY

Anderson & Bean's No. 3 J. C. Vollmert, 330 ft. from S line, 330 ft. from E line, SW Sec. 140, I.&G.N. Sur., Blk. 3	Cellar.
British American Oil Co.'s No. 5 J. L. Phillips, 1,320 ft. S, 330 ft. W of the NE cor. W½ E½ Sec. 127, Blk. 4, I.&G.N. Sur.	Set csg.; T.D. 570 ft.
British American Prod. Co.'s No. 6 Phillips, 1,259 ft. from S, 330 ft. from W lines of W½ E½ Sec. 127, Blk. 3, I.&G.N. Sur.	Rig up.
Cambrian Oil Co.'s No. 2 L. H. Webb, 990 ft. from N line, 330 ft. from E line of E½ NE Sec. 62, Blk. 25, H.&G.N. Sur.	Rig up.
Coleman et al's No. 1 W. B. Henry, 330 ft. from S line and 330 ft. from W line of E half SW Sec. 114, I.&G.N. Sur., Blk. 3	Rig up.
Continental Oil Co.'s No. 5 Carrie Wright, 330 ft. from S, 990 ft. from W lines of NW Sec. 13, Blk. 3, I.&G.N. Sur.	Drlg. 1,905 ft.
Dixon Creek Oil Co.'s No. 1 D. W. Cary, 2,600 ft. from N line, 1,157 ft. from W line of Sec. 114, Blk. 3, I.&G.N. Sur.	Rig.
Dixon Creek Oil Co.'s No. 2 M. E. Jackson, 1,320 ft. S, 440 ft. W of the NE cor. SE Sec. 138, I.&G.N. Sur., Blk. 3	Drlg. 1,800 ft.
Dyke Oil Co.'s No. 1 Saunders, NW cor. S½ NW Sec. 3, Blk. 1, B.S.&F. Sur.	Swbd. 180 bbls.; T.D. 2,948 ft.
Empire Gas & Fuel Oil Co.'s No. 2-C W. C. Archer, 330 ft. from N line and 330 ft. from E line of N half of SW Sec. 139, I.&G.N. Sur., Blk. 3	Location.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines, S½ Sec. 2, Blk. M-21, T.C.R.R. Sur.	Location.
Hendron et al's No. 1 Husselby, 330 ft. S and E, SW SW Sec. 11, Blk. A-9, H.&G.N. Sur.	Rig.
Hoffman Oil Co.'s No. 3 Finley, 330 ft. from E of NW cor. Sec. 2, Blk. 1, H.&G.N. Sur., but located in Sec. 17, Blk. S, E. E. Cheney Sur.	Drlg. 725 ft.
Magnolia Pet. Co.'s No. 1 Haggard, 330 ft. from S and W lines of NW Sec. 113, Blk. 3, I.&G.N. Sur.	Rig up.
Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line, 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur.	Rig.
Mid-Kansas O. & G. Co.'s No. 4 Webb, 330 ft. from S and W lines of NE Sec. 61, Blk. 25, H.&G.N. Sur.	Testing; T.D. 2,501 ft.
Phillips Pet. Co.'s No. 8 J. E. Wright, 330 ft. S, 992 ft. E of NW cor. N½ SW Sec. 13, I.&G.N.R.R. Sur., Blk. 3	Set csg. 312 ft.
Phillips Pet. Co.'s No. 5 Combs-Worley, 993 ft. N, 330 ft. E of the SW cor. W½ NE Sec. 35, I.&G.N. Sur., Blk. 3	Drlg. 2,400 ft.
Phillips Pet. Co.'s No. 1 Faulkner, 330 ft. from N and W lines of SW Sec. 58, Blk. B-2, I.&G.N. Sur.	Set csg. 410 ft.
Phillips Pet. Co.'s No. 3 Myson, 361 ft. from S, 376 ft. from E lines of W½ NW Sec. 87, Blk. 2-B, H.&G. N. Sur.	Rig up.
Skelly Oil Co.'s No. 1 R. W. Bailey, 540 ft. from S line and 575 ft. from W line of E 240 acres of N half of Sec. 42, H.&G.N. Sur., Blk. 25	Rig.
Skelly Oil Co.'s No. 7 Vicars, 1,320 ft. from N line, 330 ft. from W line of E½ NW Sec. 127, Blk. 3, I.&G.N. Sur.	Swabbed 212 bbls. in 18 hrs.; put on pump; T.D. 3,284 ft.
Skelly Oil Co.'s No. 9 Vicars, 330 ft. from S, 1,265 ft. from E lines of SW Sec. 127, Blk. 3, I.&G.N. Sur.	Spudded.
Skelly Oil Co.'s No. 4 Webb, 330 ft. from N line, 330 ft. from E line, Sec. 16, Blk. 25, H.&G.N. Sur.	Flowed 64 bbls. of oil in 3 hrs.; T.D. 2,552 ft.
Skelly Oil Co.'s No. 5-A Webb, 330 ft. from N, 990 ft. from W lines of SE Sec. 61, Blk. 25, H.&G.N. Sur.	Drlg. 805 ft.
Stanolind O. & G. Co.'s No. 2-C T. B. Cobb, 330 ft. from N and W lines of SE Sec. 165, Blk. 5, I.&G. N. Sur.	Rig up.
Thorp et al's No. 1 G. H. Saunders, 330 ft. from W line and 330 ft. from S line of N half of W half of Sec. 3, B.S.&F. Sur., Blk. 1	Rig on ground.
Wilcox Oil & Gas Co.'s No. 25 Combs-Worley, 2,310 ft. from N line and 1,650 ft. from E line of W half of Sec. 35, I.&G.N. Sur., Blk. 3	Rig.

HUTCHINSON COUNTY

Huber Petroleum Co.'s No. 2-A J. F. Weatherly, 990 ft. from S line and 330 ft. from W line of E half SE Sec. 26, A.&B. Sur., Blk. Y	Rig.
J. R. Phillips et al's No. 1 Tom Lewis, 330 ft. S and W, of the NE cor. NE Sec. 7, B.S.&F. Sur., Blk. M-23.	U.R. at 320 ft.
Phillips Pet. Co.'s No. 1 Ludlum, 250 ft. from N and W lines of a square 50-ac. tract in NE cor. Sec. 3, Blk. M-21, T.C.R.R. Sur.	Spudded.
Harry Stekoll Oil Prod. Co.'s No. 2 F. Plemons Whittenburg, 330 ft. W, 1,650 ft. from N lines of 160 acres of the W½ Sec. 18, Blk. 47, H.&T.C. Sur.	Drlg. 915 ft.
Stanolind O. & G. Co.'s No. 3-C Ware, 330 ft. from S line, 330 ft. from E line, Sec. 20, Blk. M-21, T.C. R.R. Sur.	Fishing 2,976 ft.
Tripplehorn Bros.' No. 2 R. C. Ware, 330 ft. from E line and 990 ft. from S line of E half NE Sec. 123, Blk. 4, I.&G.N. Sur.	Location.

WHEELER COUNTY

H. R. Anderson's No. 1 R. L. Harlan, 330 ft. from N line, 330 ft. from E line of NW Sec. 49, H.&G.N. Sur., Blk. 24	Rig up.
Humble O. & R. Co.'s No. 1 J. P. Koons, 330 ft. from S and E lines of W½ NE Sec. 43, Blk. 24, H.&G. N. Sur.	Drlg. 710 ft.
Myers & Kennedy's No. 1 Harvey, 660 ft. from S and E lines of NW Sec. 67, Blk. 13, H.&G.N. Sur.	S.D. 380 ft.
R. R. Osborne's No. 1-A Admire, 330 ft. from N, 1,520 ft. from E lines of NE of Blk. 13, H.&G.N. Sur.	Swabbed 134 bbls. in 4 hrs.; T.D. 2,198 ft.
Parkhurst & Skrivin's No. 1 D'Spain, 330 ft. from N and E lines of E½ SW Sec. 52, Blk. 24, H.&T.C. Sur.	Location.
Piney Oil & Gas Co.'s No. 1 A. Plummer, 990 ft. from N line and 330 ft. from E line of E half NE Sec. 45, H.&G.N. Sur., Blk. 24	Location.
Piney Oil Co.'s No. 1 Mankins, 330 ft. from S and E lines of W½ SE Sec. 54, Blk. 13, H.&G.N. Sur.	Bldg. rig.
Piney Oil Co.'s No. 1 Flurmox, 990 ft. from N, 330 ft. from E of E½ NE Sec. 45, Blk. 24, H.&G.N. Sur.	Rig up.

East Central Texas Wildcats

(Continued from Page 44)

SHELBY COUNTY

Shell Petroleum Corp.'s No. 1 J. N. Jones, 800 ft. from N line of survey and 1,000 ft. from E line of survey, J. F. Summeralls Sur.	Prepare to make drill stem test; T.D. 5,963 ft.
Shell Petroleum Corp.'s No. 1 Lee, 1,500 ft. from NW and SW line of farm and survey, William Cooper Sur.	Drlg. 5,143 ft.
Standard Oil Co. of Kansas' No. 1 A. W. Johnson, 466 ft. from NE line, 466 ft. from NW line of 100-ac. tract, Simon Sanches Sur. No. 7	Location.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 G. W. Burkett, 3,500 ft. due S and 1,400 ft. from W at right angles from Magnolia Ferry, Simon Sanches Sur. No. A-23	Bldg. road to location.

LIMESTONE COUNTY

J. Rodgers et al's No. 1 Vol DeLone, 1,516 ft. from W line and 600 ft. from N line of W 100-ac. tract, Pedro Varela Sur.	Shut down.

NAVARRO COUNTY

J. B. Stoddard et al's No. 1 C. S. West estate, 1,000 ft. from W line and 650 ft. from N line of 682-ac. tract, Mathew Boren Sur., Abstract No. A-56	Location.

RAINES COUNTY

J. W. Hallsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B. B.&C. Sur.	Rig up.

RUSK COUNTY

Gant-Garvin and Wegner's No. 1 Edwards, 3,280 ft. from W line and 6,800 ft. from S line of survey, M. V. Pena Sur.	Waiting on cmt. to set; T.D. 3,647 ft.
Louisiana Pipe & Supply Co.'s No. 1 S. E. Arnold, 330 ft. from E line and 1,520 ft. from S line of survey, W. M. Christian Sur.	Running csg.; T.D. 3,694 ft.
J. W. Mason et al's No. 1 J. R. Irion, 4,800 ft. from N line and 9,050 ft. from E line of survey, Juan Vargas Sur.	Derrick.
Stanolind Oil & Gas Co.'s No. 1 J. W. Spence, 607 ft. W and 330 ft. from N of SE cor. of lease, Walker Pettit Sur.	Running csg.; T.D. 3,664 ft.
L. I. Sugar's No. 1 Still, 8,210 ft. from W line and 1,175 ft. from N line of survey, John Wilkinson Sur.	Derrick.

UPSHUR COUNTY

D. C. Fisher and Dye's No. 1 Starr, 700 ft. from N line and 700 ft. from W line of survey, Charles Cooper Sur.	Derrick.
C. H. Lyons et al's No. 1 T. J. Dunbar, 330 ft. out of most westerly SW cor. of lease, J. F. Davidson Sur.	Drlg. 2,560 ft.
B. F. Phillips' No. 1 Starr, 1,980 ft. from N line and 850 ft. from W line of survey, Charles Cooper Sur.	Rig up.

VAN ZANDT COUNTY

Gillum and Allen et al's No. 1 A. T. Bass, 460 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.	Derrick.
Griffith Bros.' No. 1 Bruce, 1,000 ft. from S line and 330 ft. from E line of 124-ac. tract, G. Martinez Sur.	S.D. 1,562 ft.
Humble O. & R. Co.'s No. 1 S. R. Ray, 200 ft. S, 150 ft. W of J. D. Listenbee 30-ac. lease in Nacogdoches County School Lands Sur.	Waiting on pumping equipment; T.D. 1,237 ft.
W. E. McKinney et al's No. 1 B. T. Davis, 210 ft. from N line and 160 ft. from W line of 139-ac. tract, J. Goodman Sur.	Drlg. 340 ft.
Pure Oil Co.'s No. 2 Ray, 250 ft. N of S line and 182 ft. W of E line of tract, Nacogdoches County School Land Sur., elevation 449.7 ft.	S.D. 1,215 ft.
Pure Oil Co.'s No. 2 Fowler, 200 ft. E of most westerly W line and halfway between N and S lines of John Walling Sur.	Location.
Ray Drlg. Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line, 150 ft. from W line of 217-ac. tract, John Walling Sur.	Derrick.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobett, 450 ft. from S line and 330 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur.	Fishing; T.D. 4,970 ft.

Pools Closely Follow Each Other in Oklahoma, the Latest Being in Eastern Logan County

By JAMES McINTYRE

Oklahoma has had so many new pool discoveries of late that the average oil man is busy keeping track of them. The discoveries are widely scattered and all are of importance. The south Burbank Pool in Osage County, the Meeker discovery and the West Chandler Pool in Lincoln County, the shallow pay in John Fitts Pool in Pontotoc County, the Newalla discovery in Oklahoma County and the latest of all, the proof of oil in the wildcat test near Langston in Logan County, followed closely the new pools of 1933, during which year Oklahoma held its own in the matter of newly discovered oil pools.

The Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 1 Fouts, NW NE Section 14-17-1w, Langston district, found Wilcox sand at 4,097 feet and was only 1 foot in the sand when the gas blew the tools up the hole, snapping the drilling line. The well made a 20-minute flow and then after an hour and half interval made another 20-minute flow. The tools were in the hole and when they are recovered and tankage provided the well will be drilled in. Two other wildcat tests in Logan County are near pay sands, the Barnsdall Oil Co.'s No. 1 Seyller, in Section 12-15-4w, which was reported in Simpson dolomite just above the Wilcox and Anderson & Kerr and others' No. 1 Hull, in Section 11-18-4w, which was on top of the Layton sand with pipe set.

In Osage County

Mead Oil Co. and Beck's No. 2, NW NE SW Section 10-25-6, South Burbank Pool, got the top of the Burbank sand at 2,789 feet, first oil and gas at 2,792 feet, with increased oil at 2,800-03 feet. The well flowed 142 bbls. the first 10 hours. It was deepened to 2,827 feet and flowed 1,547 bbls. in 24 hours and 1,810 bbls. the second 24 hours. It is a bigger well initially than the discovery well, Mead Oil Co. and Beck's No. 1, NE cor. SW Section 10, which started at 540 bbls. the first day and which after several small shots increased to 1,412 bbls. a day. No. 1 got Burbank sand at 2,807-56 feet. No. 2 was to have been drilled deeper.

In the same township, Manahan Drilling Co., Norbla Oil Co. and Gypsy Oil Co.'s No. 1, SE cor. NW Section 3, had the top of the Burbank sand at 2,725 feet with a showing of oil and gas. A number of wells were started in the township in the past week, including Midco Oil Co.'s No. 2, SW SE NW Section 10-25-6, rigging up; Champlin Refining Co.'s No. 1, NW cor. NE Section 15-25-6, rigging up; A. H. Kasishke's No. 3, SW cor. Section 15-25-6, cellar dug; Phillips Petroleum Co.'s No. 1, NE cor. NW Section 15-25-6, building rig; Skelly Oil Co.'s No. 1, SE cor. Section 16-25-6, building rig. There are eight wells drilling in the township in addition to the operations above named.

In the Naval Reserve area in Township 24-7, a number of new operations were started, including Champlin Refining Co.'s No. 10 Kennedy, CSL NW SW SE Section 16-24-7, building rig; same company's No. 1, SE SW Section 16-24-7, drilling at 350 feet and No. 2, NE SE NW Section 16, spudding; Lewis Production Co. and Continental Oil Co.'s No. 2, 806 feet south and 300 feet west of C Section 16-24-7, drilling at 450 feet; No. 3, 1,312 feet south and 300 feet west of C Section 16, rigging up; No. 4, NE SE SW Section 16, building rig; No. 5, SE cor. SW Section 16, cellar.

Norbla Oil & Gas Co.'s No. 1, SW SE NE Section 25-24-7, was shot with 80 quarts at 2,776-2,832 feet and swabbed 15 bbls. It was being cleaned out. Skelly Oil Co.'s No. 1, NE cor. NW Section 28-24-7, was shot with 10 quarts at 2,668-82 feet. It pumped 76 bbls. in 18 hours.

J. S. Dewar's No. 2, SW NW SW SW Section 29-28-11, Osage County, found Layton sand at 1,284-1,316 feet. It was shot with 180 quarts and the well made a 100-bbl. showing with 2,500,000 feet of gas.

Lewis Production Co. and Continental Oil Co. got a 100-bbl. showing in Layton sand at 965-1,000 feet in No. 1, NE cor. SW Section 16-24-7, Naval Reserve Pool.

Bay Oil Co. completed No. 2, NW cor. Section 13-23-7, a 10-bbl. well in Hominy sand at 2,855-70 feet, which had been acidized.

Peters Petroleum Corp. and others' No. 1 SW cor. SE Section 23-23-9, was tested on the pump and produced 130 bbls. in 36 hours from Burgess sand at 2,220-28 feet, which had been shot.

Ohio-Osage Oil Co. has a 120-bbl. initial producer yielding oil of 45 gravity in No. 3, C NW NE NW Section 34-21-9, producing from Layton sand at 1,121-30 feet. It had been shot with 30 quarts. It was completed.

Gray & Tolson completed No. 4, NE SE SW Section 27-21-9, a 5-bbl. Layton sand well at 1,133-39 feet.

Indian Territory Illuminating Oil Co. made a location for No. 1, C SW NW SE Section 5-22-10.

Oklahoma Production

Estimated daily average production in Oklahoma in the week ending February 24 and in the preceding week was as follows:

	Feb. 24	Feb. 17
Allen	9,030	9,035
Bristow-Slick	10,200	10,200
Cushing-Shamrock	13,500	13,500
Haddton	9,100	9,100
Hewitt	4,900	4,800
Burbank	10,500	10,000
Balance of Osage	22,000	22,000
Lucien	4,765	5,845
Logan County	2,065	2,860
Bowlegs	10,585	11,300
Carr City	5,745	6,455
Earlsboro	9,915	10,025
East Earlsboro	13,745	13,525
South Earlsboro	1,305	1,400
Little River	15,880	17,205
East Little River	790	885
Seminole	11,325	11,830
East Seminole	1,036	1,180
Searight	2,365	2,935
Maud	1,320	1,315
Mission	4,345	4,310
St. Louis-Pearson	22,480	24,175
Cromwell	4,800	4,850
Oklahoma City	128,145	174,860
Tatums	8,085	8,350
Sholem-Alechem	4,500	4,700
Duncan	4,500	4,500
Tonkawa-Garber-Thomas	6,750	6,750
Holdenville-Fish	7,220	6,830
Wewoka	4,600	4,650
Other fields	84,910	85,710
Total	440,400	495,080

In Garvin County

Carter Oil Co. is building rig for No. 1 W. A. Parton, SE cor. SW Section 33-1n-3w, Garvin County. Anderson & Kerr's No. 1 Rodka, NW NE NW Section 21-4-1w, was drilling at 4,293 feet. It had a showing of oil in sandy lime at 3,612-20 feet and topped checkerboard lime at 3,790 feet. Phillips Petroleum Co.'s No. 1 Dennis, C SE SE NE Section 9-4-1e, had a sand at 3,011-21 feet and was coring at 3,205 feet.

In Pontotoc County

Denver Producing & Refining Co.'s No. 1 Burke B., NE SW SE Section 25-5-4, was put on the pump and made 80 bbls. in 12 hours. It had been acidized at 2,490-2,592 feet.

Gilcrease Oil & Gas Co. are expected to abandon No. 1-A Harbert, SW SE NE Section 7-5-8, total depth 1,700 feet.

Manahan Drilling Co. and others' No. 1 Reynold Wagner, C SW NE SE Section 18-2-7, Fitts area, in the reports received early in the fiscal week was estimated as a 200-bbl. pumper, from sand at 1,725-64 feet.

W. A. Delaney's No. 1 Hardsin, NW cor. Section 30-2-7, is a 160-bbl. well from Hunton lime topped at 3,686 feet. It came in around the middle of January.

9,800-Bbl. Increase

The unprorated oil fields of the State were given all of the 9,800-bbl. increase granted in the March Federal quota, by an order of the State Corporation Commission. Total for the State is 456,400 bbls. daily.

Only changes in the February order for the prorated fields was that 10 per cent of the November deferred underproduction was granted in the Wilcox zone, and the Simpson percentage allowable was cut from 14 to 12 per cent. The Sasakwa percentage was increased from 14 to 18 per cent.

The deferred underage was granted because potentials will be under way in the Wilcox zone and some of the wells will be unable to get all of their monthly allowable.

Only Commissioners Paul Walker and E. R. Hughes signed the new order.

Earlier in the week Secretary Ickes, oil administrator, increased the national outlet 99,800 bbls. to 2,282,000 bbls. Of this amount Texas was given 63,900 bbls. and Oklahoma only 9,800 bbls.

Swanson Is Witness

E. R. Swanson, chief economist of the petroleum division of the Bureau of Mines, told the commission that the Texas increase, much larger proportionally than that given to Oklahoma, was due to a larger market, citing that the difference in exchange had created a greater foreign demand for oil.

Refineries Hard Hit

W. L. Murphy, attorney for Wilcox Oil & Gas, termed the system used by the Bureau of Mines as a "scientific factor" in determining the demand for crude in the Nation, and sought to show that such method worked a handicap on local refineries.

He pointed out that the Wilcox plant at Bristow now is shut down because of inability to get crude. When the commission had the task of determining market demand for the State, the plants could get enough oil, Murphy said.

Northwestern Oklahoma

E. D. Buck has started drilling No. 1-A Bush, a wildcat, C NE NE Section 25-28-4, in eastern Kay County.

Ross Cummings and others have cellar dug for No. 1 Gage, SW C NE Section 27-22-3w, Noble County, a wildcat location.

Noble County

Lucien Consolidated's No. 2 Magney, C SE SW Section 17-20-2w, Lucien Pool, Noble County, was completed. It took a potential gauge and made 477 bbls. in 12 hours. The new total depth after plugging back is 5,120 feet. No. 3 Magney, C NE SW Section 17, was drilling at 4,502 feet.

Carter Oil Co.'s No. 1 Weber, C NE SW Section 20-20-2w, was drilling at 5,153 feet. It produced 200 bbls. in 12 hours from sand at 5,140-51 feet.

Lucien Consolidated was building rig for No. 3 Weber, C SE NW Section 20-20-2w. Stanolind Oil & Gas Co. and Amerada Petroleum Co. set 15-inch pipe at 165 feet in No. 2 Bohn, C SE NE Section 29-20-2w.

Mid-Continent Petroleum Corp.'s No. 1 Swank, SE NE NE Section 19-19-2, Payne County, was shut down for orders. It got first Wilcox sand at 4,723-29 feet and second Wilcox at 4,732 feet and the hole filled 500 feet with water in 30 minutes, total depth 4,733 feet.

Creek County

Suppes' No. 1 Hendrickson, SW NW SE Section 36-18-7, was abandoned at 1,641 feet after having found no Layton sand. It had a dry sandy lime at 1,557-67 feet.

F. P. Henry has cellar dug for No. 1 Jacobs, NW SW SW Section 1-15-7, Creek County, and McBride and others have material in for No. 1 M. Wickham, NE NW SE Section 3-15-7.

Phillips Petroleum Co.'s No. 6 Charles, SE SW SE Section 25-15-7, got first Wilcox sand at 3,768 feet and drilled to 3,785 feet. It swabbed 56 bbls. in 12 hours. It was given a 1,000-gallon acid treatment, but there was no increase in production.

Oklahoma City

Simpson sand wells in the Oklahoma City Field will be given four-hour open-flow tests in April to determine their potential. The wells will be given an allowable production on a lease basis in May. If the wells fail to flow they may be produced by pumping, swabbing or air-gas lift. The potential production of the wells will be fixed at five times the quantity of oil they make on the four-hour test.

No completions were reported from the Oklahoma City Field in the past week in review. Indian Territory Illuminating Oil Co. made a location for No. 9 Patterson, SW cor. Section 25-11-3w, and for No. 4 Wisel, SE cor. Section 26-11-3w, and was rigging up for No. 7 Little, C SW NE NE Section 27-11-3w. Same company made location for No. 3 Goldia Lord, NE cor. Section 35-11-3w, and for No. 11 Oklahoma State land, NW cor. Section 36-11-3w.

The Springrose Drilling Co. and others' test, No. 1 Edwards, C SE SE Section 19-11-1e, cleaned out the cavings and the crew was making ready to acidize the well, which was showing production in the Hunton lime, as previously reported.

Greater Seminole

Amerada Petroleum Co. may abandon No. 1 Parson, a test 330 feet north of south line of Lot 7, Section 12-11-6, Seminole County. It had been drilled to 4,684 feet without finding oil in either of the Wilcox sands and was then plugged back to 4,234 feet and the casing ripped at 4,175-4,227 feet. There was a good showing of gas, but no oil or water.

Atlantic Oil Producing Co.'s No. 1 School land, C NE NW NW Section 36-10-4, in Pottawatomie County, will be abandoned. It was drilled to 4,514 feet and none of the formations penetrated showed oil.

Carter Oil Co.'s No. 1 Joe, C W half SE SW Section 2-9-6, Seminole Field, was given a potential test and made 1,171 bbls. in 48 hours. The well was completed. It is producing from Hunton lime at 3,990-4,048 feet.

Phillips Petroleum Co.'s No. 1 Walker, SE cor. Section 29-8-8, had Hunton lime at 3,850 feet and drilled to 3,977 feet. The well swabbed 12 bbls. in eight hours and was then acidized.

Keyokla Oil Co.'s No. 1 McGee, SE

SW SE Section 4-7-4, St. Louis Pool, Pottawatomie County, flowed 1,761 bbls. in a 48-hour potential test, after having been acidized in Hunton lime from 3,715 to 3,800 feet.

Phillips Petroleum Co.'s No. 2 Richards, SW SE Section 35-7-4, South St. Louis area, was abandoned. It was given a 2,000-gallon acid treatment in dolomite at 4,175-4,219 feet, but was not helped any. The best it had done was to swab 20 bbls. of oil with 100 bbls. of water.

Limestone Oil Co.'s No. 9 Walker, NW SE NE Section 15-7-8, Holdenville district, pumped 85 bbls. in 24 hours from Calvin sand at 1,186-1,210 feet.

Troup & O'Connor's No. 6 Haskett, SW SE SE Section 15-7-8, started at 40 bbls. a day on the pump, from sand at 1,170-99 feet.

Magnolia Petroleum Co.'s No. 2 Witty, 1,180 feet from north line and 882 feet from west line, SW Section 22-7-8, pumped 119 bbls. in 19 hours from sand at 1,158-73 feet.

Burke-Greis Oil Co. abandoned the location for No. 1 Davis, C NE NW NW Section 29-7-8, on which cellar had been dug.

J. Garfield Buel and others' No. 1 Huddleston, SE SW SW Section 24-6-4, was dry and abandoned at 3,430 feet in Sylvan shale. It had a trace of Hunton lime.

Carter Oil Co. has started drilling No. 1 Jarvis, a community test, C E half NE SW Section 18-10-6e, Seminole County. Balph and others had cellar dug for No. 1 Boyd, SW SE Section 7-9-5, Earlsboro district. It will be a Hunton lime test. Darby Petroleum Corp. and Lippa have rig up for No. 1 Barrett, C NW SE Section 19-9-5, and have started drilling No. 1 Nedeau, C NE SW Section 19-9-5. Carter Oil Co. was building rig for No. 2 Kiker, C E half NW SW Section 2-9-6, East Earlsboro district. Ligon & Todd were spudding No. 3 Kiker, Block 146, Wewoka, Section 30-8-8, 390 feet from north line and 345 feet from west line, NE Section 30-8-8, Vivian Oil Co. was drilling at 1,100 feet in No. 3 Duval, SW SE SE Section 4-7-4, St. Louis area; Mid-Continent Petroleum Co. has rig up for No. 2 Kahdot, SE cor. Section 36-7-4. Elliott and Shell Petroleum Corp. have cellar dug for No. 3 Pickens, NE SW NE Section 15-7-8. Holdenville district. Kerran and others have dug cellar for No. 1 Haskett, SE cor. SW Section 15-7-8. Limestone Oil Co.'s No. 10 Walker, NW SE NE Section 15-7-8, was being rigged up with standard tools. Magnolia Petroleum Co. has cellar dug for No. 3 Witty, NE NW SW Section 22-7-8. Sinclair Prairie Oil Co., Amerada Petroleum Corp. and Slick Urschel, Inc., have spudded a test, No. 1 Bruno, NW cor. Section 6-6-5, Seminole County.

Western Wildcats

Patee Royalty Co.'s No. 1 Goosetree, SW SE SW SE Section 32-10-23w, Beckham County, was abandoned at 3,965 feet. It had a small showing of gas in sandy shale at 2,938-84 feet, but no oil showings.

Denver Producing & Refining Co.'s deep test in Caddo County, No. 1 Noe, NW SW SW Section 34-10-10w, had reached a depth of 9,700 feet, but was delayed by a fishing job for drill pipe.

Logan County

Mid-Continent Petroleum Corp.'s No. 1 Campbell, C SE NE Section 33-17-4w, in the Crescent Pool, Logan County, was completed. It made 795 bbls. in 24 hours from Wilcox sand at 6,045-6,121 feet.

Gypsy Oil Co. and Carter Oil Co.'s No. 1 Knowles, C NW NW Section 34-17-4w, was shut in. It flowed 1,581 bbls. in six hours from Wilcox sand at 6,261-96 feet, total depth. No. 2 Knowles, C SW NW Section 34-17-4w, was drilling at 50 feet.

Barnsdall Oil Co. and others' No. 1 Seyller, NE cor. SE Section 12-15-4w, Logan County, a wildcat, was coring at 6,399 feet. It had a showing of oil and gas in dolomite at 6,380-98 feet.

Lincoln County

In the Chandler area in Lincoln County, Slick-Urschel, Inc.'s No. 1 Mayer, NW cor. Section 17-14-4, which got Wilcox sand at 5,020-31 feet and flowed 2,112 bbls. the first 16 hours, flowed 2,914 bbls. in the next 24 hours and 2,714 bbls. on the third day. The same company's No. 2, SW NW NW Section 17-14-4, found Wilcox sand at 5,040-52 feet. It swabbed 42 bbls. of oil and 3 bbls. of water. It was drilled to 5,062 feet.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 4 Brill, NW NE NE Section 11-14-3, was drilling at 540 feet. Sinclair Prairie Oil Co. and others were building rig for No. 1 Hopkins, SW NW NE Section 12-14-3. Amerada and Stanolind were drilling at 1,475 feet in No. 1 Craig, NW cor. Section 12-14-3. Magnolia Petroleum Co. has started drilling No. 5 Telford, SE cor. Section 7-14-4.

The Chandler and West Chandler Pools, the first in Township 14-4 and the latter in Township 14-3, are very busy areas. The Twin State Oil Co. is drilling two wells in Section 1-14-3; Magnolia three wells in Section 2-14-3; Amerada Petroleum Corp. and Stanolind Oil & Gas Co., one well in Section 12-14-3, and Indian Territory Illuminating Oil Co., one drilling in Section 33. In the Chandler area, Magnolia Petroleum Co. is drilling three wells in Section 7-14-4 and another in Section 8. Sinclair Prairie is drilling one in Section 17, and Slick Urschell, Inc., three in Section 17. Magnolia Petroleum Co. has three drilling in Section 18.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 1 Martinek, NW SE Section 35-13-5e, will be plugged back to Hunton lime. It had 4,000 feet of water in the hole from Wilcox sand at 4,518-26 feet. It had flowed 780 bbls. of oil and 365 bbls. of water in 21 hours from Hunton topped at 4,241 feet.

The Meeker Discovery

The Shell Pipe Line Corp. has laid a line to the wildcat test in SW cor. Section 25-12-3, Meeker district, Lincoln County, variously carried on scout reports as "Huckleberry and others," "Twin State Oil Co. and others" and "Sinclair Prairie Oil Co. and others." It is a community test drilled on a Twin State lease in a block of 1,520 acres by Dirickson, Huckleberry and the Twin State company, but recently turned over to the production department of the Sinclair Prairie Oil Co., which will complete it and do the future operating on the block. This wildcat found sand at 5,455-61 feet and swabbed 694 bbls. of 34 gravity oil in 24 hours.

The Twin State Oil Co., Sinclair Prairie Oil Co., Mid-Continent Petroleum Corp., Shell Petroleum Corp., Gypsy Oil Co., Amerada Petroleum Co., Stanolind Oil & Gas Co. and Papoose Oil Co. are all acreage owners in the community block on which No. 1 Boland was the first well drilled, as a unit proposition. The block consists of the SE Section 25, owned by Sinclair Prairie Oil Co.; SW Section 25, Twin State Oil Co.; SE Section 26, Sinclair Prairie Oil Co. and Mid-Continent Petroleum Co.; N half SW Section 26, Shell Petroleum Corp.; S half SW Section 26, Sinclair Prairie Oil Co.; SE Section 27, Gypsy Oil Co.; NE Section 34, Amerada and Stanolind companies; W half of NW Section 35, Amerada and Stanolind companies; E half NW Section 35, Sinclair Prairie Oil Co.; SW Section 35, Papoose Oil Co.; NE Section 35 and E half SE Section 35 and W half NW Section 36, Amerada and Stanolind companies; W half SE Section 35, Sinclair Prairie Oil Co.

Southern Fields

In Marshall County, Centrop Oil Co.'s No. 1 Jinkins, 220 feet from south line and 735 feet from east line, NE Section 25-7s-5e, is estimated as a 12-bbl. well at 457-64 feet. Mitchell & Kilbourne's No. 2 Burge, NW NE SE SE Section 25-7s-5e, swabbed 52 bbls. in 24 hours from sand at 530-31 feet, and was being rigged up to pump. Location was made for No. 3 Burge, CWL NE SE SE Section 25.

Peard and others have abandoned the location for No. 1 Impson, C NW NW SE Section 12-3s-6w, Stephens County, and abandoned at 240 feet their No. 1 Impson-Smith, NW NW SE Section 12-3s-6w.

W. E. Thurlow has a 3,000,000-foot gas well in No. 1 Gilmore, NW NE SE Section 10-2s-5w, Stephens County, from sand at 720-35 feet.

Skelly Oil Co. completed No. 2 Drew, NW SE SW SE Section 8-2s-2w, Carter County. It is an 8,750,000-foot gasser with 645 pounds rock pressure from sand, shale and limestone at 1,290-1,360 feet.

New work in the southern fields includes the following operations: Carter Oil Co.'s No. 4 Pierce, NE SE SW Section 8-2s-2w, Carter County, a location; same company's No. 2 Humble-Heffner, C NW NE NE Section 16-2s-2w, drilling

Wildcat Operations in Oklahoma

Week Ending February 24

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	T.D. 6,460 ft.

BECKHAM COUNTY

West Oak Gas Co. et al's No. 1 Powell, NW SW Sec. 11-9-25w	Drlg. 2,920 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w	Drlg. 9,700 ft.

COMANCHE COUNTY

Stores et al's No. 1 Crutcher, C NE Sec. 11-1-12w	S.D. 150 ft.

DEWEY COUNTY

Continental Oil Co.'s No. 1 Beaumer, SW NE Sec. 8-19-20w	Drlg. 4,028 ft.

GARFIELD COUNTY

Stanolind O. & G. Co.'s No. 1 Van, SW NE Sec. 29-21-1w	Drlg. 5,043 ft.
Indian Terr. Illum. Oil Co.'s No. 1 Clark, C NW NW Sec. 34-21-6w	T.D. 6,428 ft.; rig blown down.

GARVIN COUNTY

Anderson & Kerr's No. 1 Rodke, NW NE NW Sec. 21-4-1w	Drlg. 4,293 ft.
Phillips Pet. Co.'s No. 1 Dennis, SE NE Sec. 9-4-1e	Drlg. 3,205 ft.

HUGHES COUNTY

Dickison et al's No. 1 Webster, NW NE Sec. 22-10-10	Rig on ground.
J. B. Hill's No. 1-A Perkins, C W½ SW SW Sec. 7-5-9	Drlg. 605 ft.
Birk-Kan.'s No. 1 Gardner, NE NW Sec. 22-6-9	Rig.
Olympic Oil Co.'s No. 1 McClassen, SE NW NW Sec. 12-9-8	T.D. 600 ft.; lost tools; S.D.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10	H.F.W. 2,988-3,010 ft.; S.D.

KAY COUNTY

E. D. Buck's No. 1-A Bush, C NE NE Sec. 25-28-4	Drlg. 80 ft.
Burton Lewright et al's No. 1 Leseman, SW NE SE Sec. 4-28-3	Rig.

LINCOLN COUNTY

Amerada Pet. and Stanolind O. & G. Co.'s No. 1 Martinek, NW SE Sec. 35-13-5e	Drlg. 4,477 ft.
I. T. I. O. Co.'s No. 1 Stanley, C SE NE NW Sec. 33-14-3	Drlg. 3,100 ft.

LOGAN COUNTY

Anderson & Kerr's No. 1-A Hull, 455 ft. S, 330 ft. W of E cor. Sec. 11-18-4w	Coring 4,710 ft.
W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1	Rig.
Amerada and Stanolind's No. 1 Fouts, NW NE Sec. 14-17-1w	Set 8⅝-in. pipe 5,038 ft.; bailed; drlg. plugs.
Barnsdall Oil Co. et al's No. 1 Seyller, NE SE Sec. 12-15-4w	Drlg. 6,220 ft.
Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w	Drlg. 2,520 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17	T.D. 1,300 ft.; S.D. for 10-in. csg.

OKLAHOMA COUNTY

Springrose Drlg. Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1	4,000 ft. oil in hole; T.D. 6,079 ft.

OSAGE COUNTY

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5	Location.

PAYNE COUNTY

L. G. Hulse's No. 1 Sloan, SW NW SE Sec. 19-17-3	P.B. to 1,209 ft.
Mid-Continent Pet. Corp.'s No. 1 Swank, SE NE NE Sec. 19-19-3	Set 7-in. csg. at 4,674 ft.; T.D. 4,733 ft.; wtr.

PITTSBURG COUNTY

W. E. Hailey's No. 1 Drew, NW SW Sec. 21-3-14w	Rigging up.
Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14	Lost tools; T.D. 3,200 ft.; S.D.
Stencil Oil Co.'s No. 1 Chunn, SE NW Sec. 29-4-14	Rig.

PONTOTOC COUNTY

Galbreath's No. 1 Stafford, NE SE SE Sec. 31-2-6	Drlg. by tools.
Stanolind-Amerada's No. 1 Aldridge, C N½ S½ SE Sec. 2-5-7	T.D. 4,295 ft.; P.B.; set 6-in. csg. at 2,643 ft.
Westheimer & Daube's No. 1 Lowman, C NE SE Sec. 18-2-8	Moving in rotary.
Delaney et al's No. 1 Dawes-Hardin, SE NW Sec. 30-2-7	Drlg. 1,250 ft.
Williams' No. 1 Kroth, NE SE Sec. 23-3-4	H.F.W. 1,977 ft.

POTTAWATOMIE COUNTY

Deep Rock and Margay's No. 2 Adams, NW NE Sec. 11-6-3	Drlg. 3,340 ft.
Atlantic Oil Prod. Co.'s No. 1 School land, C NE NW NW Sec. 36-10-4	T.D. 4,514 ft.; will P.B.

SEMINOLE COUNTY

John Burns' No. 1-B Shepard, SE NE Sec. 4-8-8 (O. W.D.D.)	T.D. 1,658 ft.; S.D.
Carter Oil Co. et al's No. 1 Jarvis, C E½ NE SW Sec. 18-10-6	Moving in rotary.
Amerada Pet. Corp.'s No. 1 Parsons, 330 ft. N of S line of Lot 7, Sec. 12-11-6	T.D. 4,684 ft.; P.B. to test Hunton.
Flemiee et al's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	S.D. 1,360 ft.

Southern Oklahoma

ATOKA COUNTY

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e	Drlg. 1,135 ft.
Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e	C.O. 3,443 ft.

CARTER COUNTY

Angle & Lundy's No. 1-A Ringling, NE SW SW Sec. 11-5s-1w	Rig up.
Kilgore et al's No. 1 Williams, SE NW SW Sec. 30-1n-2w	Drlg. 2,390 ft.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-2n-3w	S.D. 299 ft.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2	T.D. 2,096 ft.; moving in; 6-in. csg.
F. E. Revells' No. 1 Wolfe, NE cor. Sec. 18-1n-2e	Drlg. 2,096 ft.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-5s-20e	Setting csg. 410 ft.
Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-16e	T.D. 2,405 ft.; S.D.

STEPHENS COUNTY

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w	S.D. 3,210 ft.
Geo. Pace et al's No. 1 Siever, SE SW Sec. 4-1n-7w	Rig.
MacMo Oil Co.'s No. 1 Butler, SW NW SE Sec. 36-2s-7w	S.D. 20 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w	Rig.

at 1,042 feet; Malernee and others' No. 1 Greenville National Bank, NW SW Section 36-2s-13e, Atoka County, drilling at 150 feet; Daphine Oil Co.'s No. 5 Majors, NW SE SE Section 25-1s-3w, Carter County, drilling at 50 feet; Trowbridge and others' No. 1 Ratliff, SE NW SW Section 19-1s-2w, Carter County, drilling at 85 feet.

Improvements to Be Shown at the Tulsa Oil Exposition

What the exhibits at the eighth International Petroleum Exposition and Congress in Tulsa May 12 to 19 will mean to the oil man whether in the producing, transportation, refining or marketing end, is contained in answers to questionnaires sent out to exhibitors. Ninety-two per cent of those answering stated improvements have been made on their products since the show in 1930 and 41 per cent said they had some entirely new device or piece of equipment to show, according to William B. Way, general manager of the exposition.

In brief, the improvements can be classified as having greater safety, being more simple in construction, more easily adapted to unusual conditions, having greater strength, using less fuel, and permit operations heretofore impossible or extremely difficult.

"With so many changes that permit greater recovery of oil and at less cost, the oil man is going to have to buy new machinery to be able to keep up with his competitor," said Mr. Way.

"There is no doubt but that there has been in the last three years an immense number of improvements in machinery, new inventions, advances in scientific and technical lines and new practices which have not as yet been generally introduced to the industry. The exposition will serve this purpose and, with the better feeling in the industry, there will probably be more buying at the coming exposition than at any other show.

"Some of the exhibits, particularly those in the Scientific and Technical Building, which are being gathered by a special committee of engineers headed by W. A. Schlueter of the Refinery Supply Co. will amaze the oil man."

Following are a few of the features to be seen among the exhibits:

Oil field engines for drilling, pumping and pipe line pump drives which eliminate fire hazard, having improved starting and cooling systems, and containing a solid injection spark ignition. This type of engine is particularly fitted for "wildcatting" as it operates on fuel oil and eliminates the use of more costly gasoline fuel.

Wire cloth made of new, corrosive resisting alloys. Blankets for the very largest claytowers made in a single piece. Improved methods for applying filter cloth to filter leaves. Claytowers, owing to high heat and corrosion, cannot be operated without the use of highly resistant metal screens.

New drill pipe with patented joint feature have 30 per cent more bearing surface, eliminating rocking in threads, washouts, breaking off in threads and providing a sealed shoulder.

Showing wild well capping devices used to shut in wild wells at Oklahoma City and the Gulf Coast and improvements in hookup for Christmas trees on producing wells.

Bricks that increase life of furnace linings; seamless drill pipe, casing tubing; air cleansers and oil filters which lessen operating cost, faster and safer winches and pumps on special oil field trucks; modern still with tube immuned to sulphur corrosion and exterior oxidation.

New type of drilling tools which permit easier operation and give more accurate and better results; chain drives which reduce heavy pumping costs; plunger lifts that make flowing wells out of pumpers; general refinements promoting efficiency of control of wells; operation of magnetos in inflammable atmospheres.

Sucker rods for corrosive conditions, making possible pumping of highly corrosive wells; improved pressure regulators for all purposes; steel balloon and vapor saving system with absolutely dry gasholder.

The exhibitors are planning many actual demonstrations as well as exhibiting materials and equipment. They realize that the oil man wishes to see the equipment in actual operation.

"Space is going fast," Manager Way said, "with approximately 80 per cent of it already contracted for."

January Operations in Eastern Field Districts

Summary of Completed Work

Field—	Comp.	Prod.	Dry	Gas
Bradford	95	201	0	0
Allegany	2	6	0	0
Middle Field	0	0	0	0
Venango-Clarion	5	5	0	1
Butler-Armstrong	2	2½	0	0
S. W. Penna.	13	13	3	6
Southeast Ohio	23	385	6	4
West Virginia	34	106	6	16
Total January	174	718⅛	15	27
Total December	178	776½	12	14
Difference	4	58	3	13

Summary of Work Under Way

Field—	Rigs	Drg.	Ttl.
Bradford	16	74	90
Allegany	1	2	2
Middle Field	0	0	0
Venango-Clarion	1	5	6
Butler-Armstrong	2	4	6
S. W. Penna.	4	14	18
Southeast Ohio	7	22	29
West Virginia	22	69	91
Total January	53	190	243
Total December	71	182	253
Difference	18	8	10

WELLS COMPLETED

BRADFORD

A. L. and L. M. Lilly, Middaugh 2
A. L. and L. M. Lilly, Middaugh 2
T. H. Kervin, Kapp 2
C. D. Henline, Moody 3
F. E. Baldwin, Baldwin 2
C. E. Potter, Irvine 2
Wommer estate, Werthman 3
Gridiron Oil Co., Gridiron 2
Operations on Vacuum lines:
Huffman estate, fee 1
N. V. V. Franchot, trustee, Loop 20
N. V. V. Franchot, trustee, Loop 12
V. G. Smith, fee 5
F. J. Elsert, Hamlin estate 3
Mix Creek Oil Co., fee ..... wtr.
Rice et al, Weston ..... wtr.
Bradford Transit Co. (56) 56
Forest Oil Corp. (3) 3
Forest Oil Corp. (1) ..... wtr.
Forest Oil Corp. (1) ..... pres.
Niagara Oil Corp. (3) 3
Niagara Oil Corp. (2) ..... wtr.
Niagara Oil Corp. (1) ..... pres.
Forest Pet. Corp. (4) 4
Forest Pet. Corp. (1) ..... pres.
Forest Dev. Corp. (1) 1
Forest Dev. Corp. (1) ..... pres.
Glenn McCool et al, Cotton 2
Lawton, Boyle & Raymond 392, Bing. .. 2
Bovaird & Hamlin, Rue 1
Margaret Colt trust, fee 2
Corwin & Gallagher, Corwin 5
Cora M. Senior, Corwin 5
Smith Oil Corp., fee 1
Smith Oil Corp., fee 1
Andrus & MacDowell, 326 Bing. ..... wtr.
H. & H. Oil Co., Moody 3
F. M. Boocks, fee 3
F. M. Boocks, fee 2
D. W. Daly, 369 Bing. 1
Kendall Ref. Co., 401 Bing. ..... wtr.
Kendall Ref. Co., 404 Bing. ..... wtr.
C. M. and F. J. Lippert, Warters 4
N. V. V. Franchot, mgr. trustee, Herrick & Shaner 8
N. V. V. Franchot, mgr. trustee, fee ... 8
First Natl. Bank, Olean et al, fee 2
A. M. Ostrander et al, Ryder Scott 4
Ryder Scott Co., fee 4
Ryder Scott Co., fee 4

ALLEGANY

Forest Oil Corp. (3) 3
Forest Oil Corp. (3) ..... wtr.
Forest Oil Corp. (1) ..... pres.
Bradford Transit (3) 3

BUTLER-ARMSTRONG

Shearer & Co., Patton 2
Consolidated O. & G., A. Affolter .... ½

VENANGO-CLARION

C. E. Jeannerat, C. E. Jeannerat 1
Dr. Dana Kahle, Lester Henry 2
Fryburg Motor Co., Fryburg ..... gas
D. O. and G. R. Moran, J. F. Moran ... 1
Burchfield & Titusville Trust, Doskey.. 1

SOUTHWEST PENNSYLVANIA

WELLS COMPLETED

ALLEGHENY COUNTY

Noving, O. Miller 2 4
Poff, E. A. Bream & Co. 5 ..... dry

BEAVER COUNTY

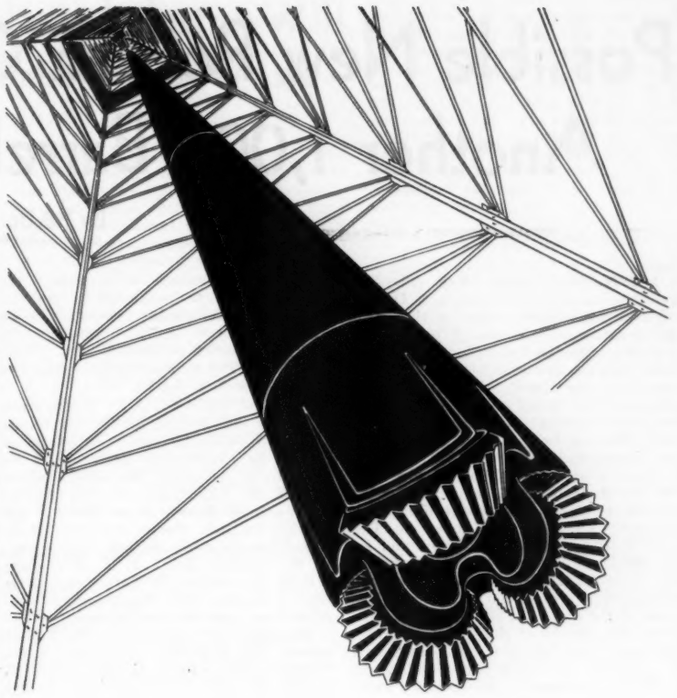
Inglefield, C. O. Inglefield et al 1 ..... dry

GREENE COUNTY

Barrackman, South Penn Oil Co. 1 ... 5
Riggs, W. V. Hoskins Co. 1 ..... gas
Thorp, Frye & McCracken 1 ..... gas
Lantz, John Lantz 1 2
Ross, Convex Glass Co. 1 ..... gas
Henry, Manufacturers L. & H. Co. 1 .. gas
Woodruff, C. J. Adrian 1 ..... gas

WASHINGTON COUNTY

Carter, Nat. Gas Co. of W. Va. 1 ..... dry
Mansfield, Ecwood O. & G. Co. 1 .... gas
McEwan, W. E. Steel 1 2



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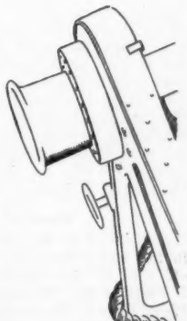

THE FIRST NATIONAL BANK and TRUST COMPANY
TULSA

THE OIL BANK OF TULSA

Possible New Pool in Ogemaw County, Mich.; Another 1,000 Barrel Completion in Porter

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Feb. 26.—The possible discovery well of a new Dundee oil pool was drilled in last week by the McClanahan Oil Co., No. 1 test on the Frank and Joseph Heintz lease, NW NW NW Section 24-22n-1e, Ogemaw Township, Ogemaw County. It was good for about 10 bbls. a day natural in the Dundee encountered at 2,714 feet and drilled to 2,739 feet before it was shut down for casing and acid treatment expected to make it at least a 50-bbl. producer in this lower horizon where previous commercial production has been limited to the spotty upper Traverse limestone. The well is northwest of the narrow and irregular upper Traverse Pool proved during recent months by several producers ranging from 50 to 2,000 bbls. initial. Because of the uncertain success and erratic production record of the Traverse in all Michigan fields where it has been found to carry oil, operators had been hoping to uncover commercial production in the Dundee or some other lower sand.

C. L. Hess' No. 1 Fisk Brothers, SE SW SW Section 27-22n-2e, West Branch Township, Ogemaw County, nearer the Weber-Wilcox discovery Traverse well, was still shut down pending a decision to treat with acid two Dundee shows encountered about two weeks ago at 30 and 80 feet. It was drilled to 2,660 feet after a show at 2,601 feet.

Pure Oil Co.'s No. 1 Fisk, SW SE SW Section 27, also West Branch Township, a direct offset to Hess' No. 1 Fisk, was nearing the Dundee after being delayed by a fishing job just above the lime. Pure also is drilling near the Traverse in its No. 1 John Hart, NE NW NE Section 34, West Branch Township.

Robert T. Jones and E. Arthur Durham's No. 1 Hugh Allen, SW NW SE Section 20-22n-2e, West Branch Township, flowed 250 bbls. in seven hours after acid treatment and had an estimated flow of 3,000,000 feet of gas. It was estimated good for about 50 bbls. a day natural when drilled in to upper Traverse at 1,753-75 feet last week by Muskegon Development Co. It is a quarter mile northwest extension from Theodore Oil Co.'s No. 1 on the Ogemaw Country Club lease.

Show of Oil

A show of oil was struck at 1,759 feet in the upper Traverse in Martin Kirchoff and H. W. Schulty, trustee's No. 1 Floyd Fisk, SW SE SE Section 20, West Branch Township.

Two failures in the upper Traverse, one of which will be plugged and abandoned as a "duster," also were added to the Ogemaw County record this week. Atha Oil Co.'s No. 1 Ed Hutchins, SE NW SE Section 18, West Branch, was dry and abandoned at 1,967 feet. William McK. Smith and Hagan & Hagan's No. 1 Meid, NE NW NW Section 2-21n-2e, Horton Township, a mile south of the discovery, struck salt water and was shut down.

McClanahan Oil Co. is drilling at more than 2,200 feet in No. 1 Ora Carroll, NW NW Section 29, West Branch Township, and below 400 feet in its No. 1 A. O. Guilford, NE NE NW Section 29, same township. Pure Oil Co.'s Nos. 2 and 3 August Reinhardt, both in Section 27, West Branch, are rigged and its No. 1 H. W. Schulty, NE NW NE Section 29, same township, started drilling. Four other Ogemaw County tests, three in West Branch and one in Mills Township, are idle after failure to strike commercial pay in the upper Traverse.

Four new Dundee oil producers and two others with enough oil in the hole to make commercial production upon completion were drilled in during the week in the Porter and Vernon Township pools. The four producers aggregated about 1,600 bbls. initial.

Pure Oil Co.'s No. 5 F. W. Howard, NW SW SE Section 17-13n-1w, Porter Township, Midland County, was rated at 1,000 bbls. a day as the largest new Dundee well of the week. The second largest was J. W. Campbell and Vera Nunn's No. 1 H. W. Forney heirs, NE SW SE Section 18, also Porter Township, completed for an estimated 300 bbls. a day. J. S. Braden's No. 1 J. T. McCallum, NE SE SE Section 20, Porter, northwest edge well, made 120 bbls. forcing several offsets and possible new extension tests.

Mammoth Petroleum Co.'s No. 2 Marseilles, SW NW SE Section 23-16n-4w, Vernon Township, Isabella County, flowed 150 bbls. initial and quit. It was to be swabbed and possibly treated. Dokenva Gas Corp.'s No. 1 James Walsh, NE NW SW Section 15, Vernon Township, struck oil 6 feet in the Dundee limestone and was shut down to be tested.

Gordon Oil Co.'s No. 2 Gordon-Teator, Baxter, NE SW NW Section 22, Porter Township, filled with oil when drilled into the Dundee and was expected to make a good producer.

A semiwildcat, W. J. Bernier's No. 1 Flood Syndicate, NE NE SW Section 9, Vernon Township, 1½ miles north of the Reakes well in Section 15, was plugged after failing to strike pay in the Dundee 78 feet in from 3,828-3,906 feet.

Five others in Porter Township and four in Vernon Township were either shut down on top of the Dundee or about ready to set casing. The near completions in Porter Township were: Charles W. Teator's Nos. 4 and 6 J. M. Wale in Section 22; W. J. Wilson, trustee's No. 2 Hathaway and No. 2 Hodge, both in Section 18; Wells Brothers' No. 1 Joseph H. Otway, Section 22, and Garfield Oil & Gas Co.'s No. 1 Webster, Section 20.

The four Vernon Township projects included: Virgil Voorhees' No. 1 A. Brief, Section 22-16n-4w; Templemayr & Tope's No. 3 Russell and No. 2 Wood, same township, and National Petroleum Corp.'s No. 1 Wild, Section 21.

Three other Porter Township tests drilling at more than 3,000 feet were Pure Oil Co.'s No. 1-B Root, Section 7, Bradner-Vaughan Development Co.'s No. 1 Brennan, Section 27, and Dougherty and Markey's No. 2 Forbes, Section 22. Vernon Township tests 3,000 feet or more down were: Mellon and Pollock's No. 3 Smock, Section 26, and J. V. Wicklund's No. 1 Durnin, Section 22.

Greendale Township

Branigar, Giffert and Reasor's No. 1 Fred and Hattie B. Sias, SE NW SE Section 8-14-2w, Greendale Township, Midland County, had a hole full of oil at 3,580 feet but failed to flow. It probably will be treated with acid.

Isabella Wildcats

McClanahan Oil Co.'s No. 1 Stanley Demski, SE SE SE Section 28-15n-3w, Denver Township, which came in with a rush last week as the possible discovery well in a new territory 2 miles east of production in the Leaton Pool, just as suddenly stopped flowing after it had poured more than 70 bbls. into the field tank within 30 minutes. Salt water either from the bottom of the hole or from a leaky casing was reported to have drowned out the flow. Dundee was topped at 3,580 feet with the first oil struck 28 feet in and the flow estimated good for 1,000 bbls. a day encountered 40 feet in. Drilling was suspended 48 feet in.

Drillers will attempt to shut off the water and treat the well with acid to bring back production. It is about half way between the Leaton and Chippewa Township Fields, both in Isabella County, and is expected to start considerable drilling.

Wittmer Oil & Gas Co.'s No. 1 E. R. Mogg, C SW SW Section 12-15n-4w, Isabella Township, west offset to the company's No. 1 McReavy which came in several weeks ago as the discovery well of another prospective new Isabella County Pool, is drilling below 1,000 feet with a rotary rig.

Gas Fields

William Cline's No. 1 Weidman estate, NW SW Section 9-14-6w, Broomfield Township, Isabella County, was nearing the Michigan series gas sands as the week closed. Two other wells were drilling at less than 1,000 feet deep in the same township, Pure Oil Co.'s No. 1 Gatehouse, SW NE Section 5, and J. E. Harding's No. 1 Todd, Section 7, the former in proved territory and the latter a semiwildcat west of production.

Taggart Brothers, Inc., of Big Rapids, were experiencing difficulty in completing No. 5 M. E. Darrah, C SE NE Section 5-14n-9w, Austin Township, Mecosta County, in which they cemented casing last week after attempting to blow a lost bit out of the way in the bottom of the hole. They were planning to try to drill into the Michigan gas sands a few feet below the cement.

Midland Wildcats

McClanahan Oil Co.'s No. 1 Brooks, SW SW SE Section 11-13n-1e, Mount Haley Township, Midland County, about 5 miles northeast of production in the Porter Pool, was shut down with casing cemented on top of the Dundee and nearly ready to drill in. S. S. Bankle's No. 1 Farnsworth, Section 15, Jasper Township, is still shut down at 3,440 feet on a location about 3 miles west of Porter production.

Two other Midland County outposts, Bradner-Vaughan Development Co.'s No. 1 Brennan, Section 27, Porter Township, and Gordon Oil Co.'s No. 1 Greene, Section 13, Jasper Township, are drilling in the Traverse, while L. G. Thompson's No. 1 Oliver, Section 18, Lee Township, was reported at more than 2,200 feet. Lawson Oil & Gas Co. is ready to resume on its No. 1 Atkinson, Section 26, Lincoln Township, While Sun Oil Co. has started its No. 1 Piegols, Section 9, Larkin Township.

Other Wildcats

Sun Oil Co. is completing an underreaming job in its No. 1 William O. Flemming, Section 5, Evart Township, Osceola County, at 3,300 feet preparatory to deepening to the Dundee after striking a good show of oil and gas in the upper Traverse at 3,185 feet but failing to make commercial production.

Daily Oil Co. has resumed operations on its No. 2 Christensen heirs, Section 10, Home Township, Montcalm County, offsetting a commercial producer in the upper Traverse, the first in this section.

One of two Gratiot County tests was nearing the upper Traverse at about 2,800 feet. It is Kenneth B. Montigel, trustee's No. 1 Raycraft, Section 20, Pine River Township. Vester Leonard's No. 1 Shepler, Section 26, same township, was drilling below 1,300 feet after finding nothing in the Michigan series.

McClanahan Oil Co. was shut down waiting for rotary equipment for its No.

Weather Hampers Central West Work; New Wells Due in Stark County, O.

BY GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Feb. 26.—Weather conditions have hampered to a large extent the completions of wells in all areas of the Central West Field, comprising the Lima Field of northwestern Ohio, Central Ohio, Indiana, Illinois, and same conditions prevail in Kentucky, and little can be accomplished in the Michigan Field, where the oil is found at much deeper stratas and much trouble has been experienced in making much headway with the drill.

The Lima Field failed to report any completions during the week, as is usually the case when extreme cold weather comes. Wyandot County has more wells under way than any other county in the field. In this county, Hansen and others' test on the John Culver farm has a showing of oil from 1,319 to 1,349 feet, but drilling deeper into the Trenton lime formation. This test is in Section 28, Crane Township. Upper Sandusky Oil & Gas Co. is shut down at 300 feet in No. 7 on the Oscar J. Weiker farm, same section, work to be resumed with milder weather. Jones & Coyle have a rig in for No. 1 on Harry Bardon farm, Section 5, same township. McPherson and others are shut down at 600 feet in No. 1 on the Catherine Smalley farm, Section 3, and the U. & M. Gas Co. is shut down at 250 feet in No. 1 on the Dewey M. Failer farm, Section 21, Crane Township. Jones & Coyle are shut down at 1,457 feet in a test on the Edith Swerline farm, in Section 21, Tymochtee Township, same county. Wyandot Oil Co. has a rig in for a test on the Edward Reister farm, Section 34, Crawford Township, same county.

There still remains a vast amount of virgin territory yet to be found in various parts of the Lima Field. It was only a couple of weeks ago that a well

(Continued on Page 61)

1 Frackleton, Section 18, Lincoln Township, Clare County.

Two Arenac County tests continued to race for possible production in the Dundee formation after failing to find anything worth while in the Traverse limestone. They are Lupher Drilling Co.'s No. 1 Lockhardt-Dudley, Section 25, Mason Township, drilling at about 2,500 feet, and M. L. Smith's No. 1 Proulx, Section 12, Au Gres Township, also below 2,500 feet.

New Permits

Seven new permits were issued this week, four for Porter Township, Midland County, locations, one in Elbridge Township, Oceana County, one in Broomfield Township, Isabella County, and the other in Oregon Township, Lapeer County.

The Porter locations include: McClanahan Oil Co.'s No. 1 Eliza Breu, NW NW SE Section 20-13n-1w; Gordon Oil Co.'s No. 3 Gordon-Teater-Baxter, SW SW NW Section 22; Strange and Fortney's No. 4 J. W. Campbell, SW NE SE Section 18, and Columbia Oil & Gas Co.'s No. 1 Minnie Hale, NW SW SW Section 21.

The others were: George Henry Flynn Oil & Gas Corp's No. 1 Ezra Bremmer, NE NE NW Section 9-8n-9e, Oregon Township, Lapeer County; George W. Olson, trustee's No. 1 John Fritz, C NW NW Section 14-14n-6w, Broomfield Township, Isabella County, and H. C. Nelson's No. 1 Mrs. Cozy Ackerman, NW NW SW Section 31-15n-16w, Elbridge Township, Oceana County.

Western Michigan

Recently aroused interest in possibilities of substantial new natural gas production in the Monroe formation about 200 feet beneath the Dundee shifted back today from the Laketon to the Muskegon Township section of the Muskegon Field.

Johnson Oil Refining Co. today completed its No. 5 John Thompson, SE SE NW Section 12-10n-17w, in the heart of the Laketon producing area as a dry hole in the Monroe at a total depth of 2,303 feet. It will be plugged back to the upper Traverse at about 1,675 feet. West Michigan Consumers Co., operators of an industrial pipe line serving Greater Muskegon industries, was particularly interested in the Laketon Monroe project as it has been seeking more gas production to meet increasing demands.

The West Michigan company will resume its program of deepening former Traverse and Dundee wells in the Muskegon Township area to the Monroe by carrying down the former Dixie Oil Co.'s No. 8 Fred Figge, NE NW SW Section 9-10n-16w, originally completed as a 10,000,000-foot gasser in the lower Traverse about 1,875 feet, on May 21, 1929. It is on the Muskegon River flats and will be deepened by the Muskegon Development Co., contractors.

Joe Murlin and others have a rig on location for their new well to be drilled on the Grace Orth lease, SE NW NW Section 22-10n-16w, Muskegon Township, near the southeast edge of the Muskegon Field.

Muskegon Oil Corp.'s structure test well on the William Vandermade property, SW SE Section 26-10n-15w, Egelston Township, is still shut down above the upper Traverse.

Three new wells have been started recently in the proved Oceana oil field, where the last two completions failed to develop commercial production in the upper Traverse. The latest well started is H. C. Nelson's No. 1 Mrs. Cozy Ackerman, NW NW SW Section 31-15n-16w, Elbridge Township, east offset to Nelson's No. 1 Doolittle on an adjoining Hart Township lease. Two other direct offsets are drilling near the north edge of the pool: Nelson's No. 1 Viola Smith, SE NE NE Section 36, Hart Township, and John B. Northcott's No. 1 Jane Pinder, NW NW Section 31, Elbridge Township, also on the township line.

Three Oceana County wildcats are proceeding slowly because of wintry weather and other difficulties.

All Branches Petroleum Industry Will Be Injured by Panhandle Gas Waste

By L. G. E. BIGNELL

The high rate of gas production from the Panhandle area for processing in natural gasoline plants and burning the residue has created a condition that is detrimental to the best interests of the oil, refining, transportation and gas interests of the petroleum industry. The controversy now raging between these various interests had best be settled as quickly as possible by some compromise method or all interested parties will find themselves in a position to lose a considerable sum of money in the not far distant future.

There are laws restricting the rate of oil production but none that prevents the unrestricted production of gas and the processing of a portion of it into natural gasoline. It is estimated that at least 80 per cent of this natural gasoline is sold to refiners for use in blending. If the natural gasoline plants continue to increase in size and capacity in the Panhandle area and recover approximately three-tenths of a gallon of gasoline per 1,000 feet of gas processed it will not be long before there will be an excess of this commodity on the market with the usual cutting of price.

This result is obvious and inevitable, and the natural gasoline manufacturers who are rushing madly ahead with the construction of plants in the Panhandle area, and the bankers and others extending credit to them, might well pause and consider the past effect of unbridled competition in East Texas and Oklahoma City Fields. What is true of overproduction of oil is equally true of gas and gasoline.

The refineries, who afford the largest market for natural gasoline, cannot pay more for this product than the going price of the blended gasoline made from it and there are no indications at this time that gasoline prices are going to be unusually high during the coming summer. Therefore a limited market will create stiff competition among plants making natural gasoline with the inevitable lowering of prices to the point where profits disappear.

This is of importance to the oil producer in that the cheap natural gasoline will affect the price of refined product and this will in turn be reflected in the price and demand for crude oil. Also there is no restriction except plant capacity and price upon the manufacture of natural gasoline from gas but there are definite restrictions upon rate of production and drilling of oil wells. Both Federal and state laws restrict oil production but there are no restrictions in any state on the production of natural gasoline except the gas limit of 25 per cent of the well's open flow capacity. This is not a restriction, for the gas man, like the oil producer, merely drills more wells to secure the volume of gas he thinks he needs.

While a lot might be said about the ethics of the problem and the justice to the landowners, protection of fuel supply for future generations, and other more or less moral issues there is little hope that such argument will have weight with the participants in the present controversy. The stage of sane consideration of the facts of the case seems to have been passed and the fight is on regardless of consequences to the public or to the individuals and companies involved.

But it does seem the height of folly for an industry to be again disrupted and the price structure again jeopardized during the coming period of active demand for its principal product, gasoline, simply because a few parties feel that they have been mistreated by their neighbors. Each side to the controversy has had a test of strength and knows something of the ability and mettle of its adversary and it seems that the logical thing to do is for all interested parties to get together and face facts and quit trying to beat one another to the punch and gain an advantage. While following such tactics all interested parties are destroying their own common interests in the area and at the same time denying the general public the benefits of this great natural resource.

OIL, GAS AND NATURAL GASOLINE PRODUCED FROM PANHANDLE FIELD, 1926-1933

	Natural gas in M cubic feet					
	Transported to pipe lines*	Processed by casinghead plants	Residue used by carbon black plants	Residue and other gas blown to air	Natural gasoline in gallons‖	Oil in barrels‖
1926	†15,725,533	‡34,300,000	‡1,890,000	‡209,094,000	13,209,047	25,818,000
1927	8,825,598	‡263,800,000	‡11,280,000	‡324,930,000	97,105,711	39,807,000
1928	39,978,176	‡330,500,000	‡43,020,000	‡279,175,000	123,900,115	25,229,000
1929	84,767,509	‡395,110,000	‡136,374,000	‡284,088,000	206,885,321	25,563,000
1930	81,175,878	‡412,796,000	‡168,104,000	‡267,078,000	317,733,716	32,866,000
1931	86,538,708	‡346,255,000	‡120,387,000	‡187,489,000	270,260,000	21,895,000
1932	97,168,645	‡283,753,000	*118,591,000	*81,580,000	226,779,672	18,015,000
1933	108,279,609	*337,717,000	*152,133,000	*131,963,000	222,855,318	16,635,000
Total	522,452,609	*2,402,002,000	751,679,000	1,764,447,000	1,478,728,940	205,891,000

*Reported to Railroad Commission.
†Includes gas transported by pipe line companies for prior years.
‡Estimated by Victor Cotner, Natural Gas in Amarillo District, Bulletin A.A.P.G., Vol. 17, No. 8, August, 1933, pp. 877-906.
‖Estimated. Includes 35 per cent of gas processed for gasoline and Cotner's estimates of gas escaped from drilling and producing wells.
‖Reported by various authors in Bulletins of A.I.M.E.
¶Reported by natural gasoline producing companies.

The probable life of the Panhandle gas field will be reduced from the original estimate of 25 years to a period of 10 years or less, if the practices now in vogue are continued. This reduction in the life of the gas field will be accompanied by a corresponding reduction in the life of the oil field with the loss of millions of barrels of oil which might be recovered with good operating practice.

The Panhandle Field is truly mountainous in structural form and area, having a length of 115 miles and an average width of 20 miles. Its present defined limits contain approximately 1,350,000 acres of oil and gas lands. The original reserves have been estimated by Victor Cotner as approximately 16,100,000,000,000 feet of recoverable gas and 1,000,000,000 bbls. of oil.

The discovery well was drilled in 1918, but for various reasons active development did not get under way until late in 1925. The field now contains about 727 gas wells and 2,000 oil wells, of which a great majority are capable of producing enormous quantities of casinghead and bradenhead gas. The 727 gas wells had an average initial open flow of 26,750,000 feet per day. The oil wells produced 16,635,000 bbls. in 1933, or an average daily production of 45,575 bbls., while under proration rules which limited the production to about 30 per cent of the potential.

Total Production to Date

The total production of oil to December 31, 1933, was 205,891,000 bbls. The total production of gas to pipe lines and casinghead plants was 2,924,454,000,000 feet, but this quantity may be conservatively increased by one trillion feet by gas which escaped into the air during drilling and producing operations. The total production of gas to the end of 1933 was approximately four trillion feet, leaving the present reserves at approximately 12,100,000,000,000 feet of gas and 800,000,000 bbls. of oil.

Facilities for Marketing Gas

The present facilities for marketing gas from the field include 15 pipe lines, having a carrying capacity of 950,000,000 feet per day and 55 casinghead plants with a combined capacity of 1,720,000,000 feet. There are 25 carbon black plants which have a combined daily gas consumption capacity of 575,000,000 feet.

The existing pipe line facilities were completed in 1930-31. At the present time they are operating at about one-third of their combined capacity. In 1932 the first complete year of operation of all lines, they transported 97,168,645,000 feet, with an average daily load of 266,215,460 feet. In 1933 they transported 108,279,609,000 feet, with an average daily load of 296,656,400 feet. The increase in withdrawals to pipe lines in 1933 was 11 per cent.

At the time of completing the present pipe line systems, considering their capacities and the rate of withdrawals to casinghead plants, it was estimated the gas reserves would support the markets for a period of 25 years or longer. At that time, efforts were being made to enforce conservation measures. The rules of the Railroad Commission permitted the processing of casinghead gas only. One plant which was operating contrary to rules on dry gas was forced to shut down by court orders. Many wells producing large quantities of gas and small amounts of oil were closed in as gas wells. Early in 1933, however, a special law was enacted by the legislature permitting the production of dry gas wells up to 25 per cent of the open flow for its gasoline content and, when no markets were available, the blowing of the residue into the air.

Acting under the authority of that law, the Railroad Commission has abandoned all efforts at gas conservation. Immediately after its passage, public hearings were held by the commission, at which grants were issued to anyone who appeared and requested a permit to produce dry gas for stripping purposes.

Effect on Oil Production

It is believed the wasteful withdrawals from the field will have a serious effect on the oil pools. As the gas in contact with the oil is diminished in pressure, a migration of oil into sands now occupied by gas will occur from expansion of the dissolved gases in the oil. This movement will destroy the reservoir energy remaining in the oil pools. It is estimated by petroleum engineers that only 25 per cent to 35 per cent of the oil in a pool is recovered by normal production practices. With the rapid withdrawal of gas occurring in this field, it will be impossible to obtain even the normal recovery of oil. If this rapid production of gas is permitted to continue, it is not unlikely that the oil reserves still remaining in the field will be reduced to a small fraction of the possible recovery.

Eagle Hill Completion Is Rather Disappointing; Several Government Wells Tests Drilling

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Feb. 26.—R. D. Kelley's No. 5 Foster, at the south end of the Eagle Hill Pool in Duval County, came in for a volume of gas and about 30 bbls. of oil daily from the Government Wells sand at 2,120-47 feet. It was rather disappointing. The 13 wells of the field are producing from the Cole sand at around 1,500 feet on the average. Texas Co.'s No. 7-A Duval County Ranch Co., on the west side of the Eagle Hill Pool, was the first to drill to the Government Wells sand and it got salt water. Kelley's No. 5 Foster is disappointing only in the volume of the production. There is no water. However, there is plenty of chance left for a Government Wells Pool to be developed in that district. The Kelley well got the sand the highest of anything that has been drilled to that sand in that district.

Texas Co. got the upper Government Wells sand at 2,131-41 feet and the lower Government Wells section was mostly all shale with only about 6 feet of the lower sand at 2,219-25 feet. In Kelley's No. 5 Foster there seems to have been no break between the two sands.

Development of the Cole sand in the Eagle Hill Pool for the time being is at a standstill as the boundaries of the field seem to be pretty well outlined and indicate a small field. Shasta is rigged up for a Government Wells sand test on the east side of the field but waited for results in Kelley's No. 5 Foster. Buchanan is rigged up on the west side and down 100 feet on his No. 4 Foster and has been standing there waiting for results in the Kelley well.

The Kelley well occupied about all the attention of northern Duval County the past week. Sun Oil Co. completed some more wells in Survey No. 359, between the North Government Wells Pool and the northwest extension, and Magnolia keeps drilling wells and extending the field a little farther north.

At the south end of the North Government Wells Pool, where there has been very little going on, Russ Petroleum Co. last week completed No. 4-D C. W. Hahl for 144 bbls. daily. It is interesting since No. 1-D, north of it 990 feet and between it and the field, is a dry hole, and 1,320 feet west of it and 990 feet north and also between it and production there is a dry hole of Magnolia's. Magnolia is now rigging up for a west offset to it. It amounts to a quarter mile or more extension of the field to the southeast.

"No Man's Land

There is a "No Man's Land" west of the Original Government Wells Field in northern Duval County, and it yet remains to be seen how it will connect up. From scattered wells a quarter of a mile or more apart, judging merely from the appearance of the wells on the map, the North Government Wells Pool and the South Government Wells Pool may circumvent the Original Government Wells Pool on the west and join hands. The Railroad Commission has classed all the territory west of the Original Government Wells Pool and north as far as the north line of Survey No. 48 as being in the south field. This carries the south field a mile north of the Original Government Wells Pool. Several tests are drilling in that territory at this time and may help to close up the gap.

One new test was announced in the North Kohler Pool the past week. G. G. Mortimer made location for his No. 1 Peters in the southwest corner of the northeast quarter of Survey No. 176, a half mile east of the discovery gas well of the Shasta Oil Co. and Highland Oil Co. in Survey No. 178, and a half mile southwest of the only oil well of the field on the east end of Survey No. 65, which is a narrow survey north of Survey No. 176. Following the bringing in of the discovery gas well in the Government Wells sand at around 2,300 feet there were several tests drilled over a territory 4 or 5 miles long northeast and southwest in an effort to find oil production, but with the exception of one small well it was not a success, though several more gas wells were found.

J. S. Bridwell's No. 1 J. D. Sutherland, that may prove up the new field east of the Sarnosa Pool of which the Fonway & Campbell gas well is the discovery well, is laying gas line from the Conway and Campbell well and will be drilling this week.

Webb County

South Texas Oil Co.'s No. 18 Rosenberg at the north end of the Laurel Field has come in for about 100 bbls. of gasoline daily. This well at 2,261 feet is at about the same depth as the wells in the field to the south of it, but was thought by some to be in a different sand and from the nature of the production this seems to be the case. It was reported a week ago initially as in for 500,000 feet of dry gas. This has increased to 1,500,000 feet and 100 bbls. of gasoline daily. The wells in the field to the south made rather high gravity oil but not gasoline.

Wildcat Operations in Southwest Texas

Week Ending February 24

BANDERA COUNTY

Company, well, farm name, section and block—	Remarks:
Palm-Winn Oil Co.'s (P. H. Winkle) No. 1 R. B. Watson, 600 ft. N of center of S line of tract in Sur. No. 71, 2 miles N from Medina City	T.D. 862 ft.; S.D.

BASTROP COUNTY

Chas. E. Anderson's (Ca-Tex O. & G. Dev. Co.) No. 1 Pendergrass, 1,343 ft. from NE line, 310 ft. from SE line of 130-ac. tract in Henry Warnell Sur.	T.D. 1,530 ft.; drlg. shale.
Humble O. & R. Co.'s No. 1 Ollie Carter, 951 ft. SW from NE cor. and 330 ft. NW from SE line of 117.36-ac. tract near Elgin	T.D. 1,945 ft.; coring basalt.
Don B Meghan's No. 1 Charles Holcomb, 350 ft. NW of NW line of W. P. Watts' 75.5-ac. tract, and 400 ft. NE of SW line of John W. Bunton Sur.	Spudded in and S.D.

BEE COUNTY

Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract, G. A. Kerr Sur., 1½ miles NE of Pettus	Rigging up.

BELL COUNTY

Gus Winston et al's No. 3 Warrick, 100 ft. N of James Scroggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 2,390 ft.; drlg.

BEXAR COUNTY

A. M. Blume's No. 2 Louis Ridder, approximately 2,350 ft. N of RR., 700 ft. E of W line of J. M. Baerera Sur. No. 58	T.D. 400 ft.; drlg.
Cosby et al's No. 1 Ruiz, SE cor. of 82-ac. tract in F. Rowland Sur. No. 48	T.D. 1,480 ft.; S.D.
Dingman & Russell's No. 1 R. J. Coffey, 1,228 ft. from SE line, 1,086 ft. from SW line of 420-ac. tract in Rodriguez Sur.	T.D. 1,400 ft.; drlg.
S. W. Forrester's No. 1 Appelt, 160 ft. E of Corpus Christi Road, 1,666 ft. S of N line of tract in M. Urregias Sur.	T.D. 1,350 ft.; S.D.
S. E. Gantt's No. 1 A. B. Stephen, 2,650 ft. from SW line, 740 ft. from SE line of P. W. Hays Sur.	T.D. 225 ft.; drlg. shale.
Thos. Gorton's No. 1 Edward Jackel, 600 ft. from N line, 800 ft. from E line of tract in J. Ward Sur.	T.D. 500 ft.; drlg.
George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6	T.D. 1,215 ft.; drlg.
J. W. Johnson's No. 1 Willow Springs, 150 ft. from N and W lines of lease in B. Munoz Sur. No. 151	T.D. 2,021 ft.; trying to recmt.; made salt wtr. and some oil.
Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriquez Sur.	T.D. 1,315 ft.; standing.
N. H. Price's No. 1 Barragas, 150 ft. from S and E lines of 60-ac. tract	T.D. 419 ft.; S.D.; to be comp. by H. E. Lewis.
N. S. Powell's No. 1 M. Sanner, 400 ft. from E line, 5,280 ft. from N line of 128-ac. tract in Ruiz Sur. No. 47	T.D. 325 ft.; drlg.
C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant	T.D. 930 ft.; fishing.

BLANCO COUNTY

Rogers et al's (formerly Pecernales Pet. Corp.) No. 1 Lester, 550 ft. from N line, 6,100 ft. from W line of Antonio Bendrand Sur.	T.D. 500 ft.; drlg

CALDWELL COUNTY

S. S. Cargill's No. 2 Damereau, 150 ft. from W line, 450 ft. from N line of D. Cooper Sur.	Rigging up.
C. J. Webster O. & G. Co.'s No. 1 Robertson, 770 ft. S and E from NW cor. of 100-ac. tract in John A. Neill Sur.	Spudded in and set surface csg.
Whitfield et al's No. 1 Wilms, 160 ft. from S line, 2,100 ft. from E line of 165-ac. tract in Cornelius Grenshaw Sur.	T.D. 1,175 ft.; S.D.

COMAL COUNTY

Theo. Hicks et al's No. 1 Gruene, 435 ft. from NE line, 414 ft. from NW line of H. Foster Sur. No. 34, 3 mi. NE from New Braunfels	Spudded and stancing.

DEWITT COUNTY

Humble O. & R. Co.'s No. 1 Kuester, 4,100 ft. from N line, 466 ft. from E line of lease in S.A.&M.G. R.R. Sur. No. 7	T.D. 2,460 ft.; drlg.

DUVAL COUNTY

Buffalo-Texas Drlg. Synd., Inc.'s No. 1 Escobar, 700 varas from W line, 1,000 varas from N line of 930-ac. tract in Francisco grant	Rigging up and laying wtr. line.

(Continued on Page 76)

In the southwest part of the Cole Field Allen & Morris's No. 1 Bruni, a half mile southeast of Bruni Station on the Tex-Mex railroad, completed at 2,950-59 feet, came in for only 4,000,000 feet of gas. It may be deepened if it doesn't show signs of making oil. That sand has been encountered in other tests but nothing has heretofore been completed in it. Quite a few wells around are producing at about 2,350 feet in the sand that is the producing sand of the West Cole Field.

Live Oak County

Henderson Coquat tested No. 1 Burgess in Live Oak County, 9 miles west of George West, in the Pettus sand at 2,660-64 feet, and the result was not encouraging. It made a little gas and 2½ fourbles of mud and salt water. It is to ream down and make another effort. This test has been getting nothing much but sand from the grass roots with no shale breaks to separate the various sands, but it looked a little more encouraging when the Pettus was reached.

Northern Bee County

Since the completion of No. 1 Ruhman by Dash Production Co. in the north end of Bee County over the holidays, that district has been quiet except for leasing. A big block has been leased to the southwest of No. 1 Ruhman, and interests associated with Dash Production Co. and Gus Fisher, who did a lot of the leasing, have organized the Ceasar Oil Co., which has spudded in No. 1 Pullin in the Franklin Lewis Survey, a little southwest of No. 1 Ruhman.

The report was out that No. 1 Ruhman, which came in for considerable gas and 50 bbls. or more of oil was making some water but this seems to be an error and No. 1 Ruhman has been a steady producer since completion. It is 5 miles northwest of the Pettus Field and got the Pettus sand at 3,175-95 feet, a few hundred feet shallower than in the Pettus Field. There is every likelihood of a new Pettus sand field being developed in this district and the location of No. 1 Pullin has been made after considerable study of the geology since the completion of No. 1 Ruhman.

This Pettus sand is the Cockfield and one of the interesting features is the location of the prospective new field between the Cockfield activity on the northeast, including Conroe and the rest and the Government Wells trend in northern Duval County on the southwest.

Edwards Plateau

In addition to the new test in southwestern Kerr County to be drilled on the Love ranch by G. F. Schreiner of Kerrville and to go deep to test the Ordovician, there is a revival of McGinley Corp.'s No. 1 Haby, in eastern Real County, several miles southeast of the test on the Love ranch drilled by Evans & Galt that got a lot of oil and almost made a commercial well. McGinley Corp. carried No. 1 Haby down to 2,540 feet, where it has been standing for a couple of years or more. H. J. Hartwell has gone back into the hole and is arranging to deepen it and it may go to the Ordovician.

An effort was recently made to get on bottom in the original No. 1 Love in Kerr County to carry it down. It stopped at 4,060 feet. The effort was not successful and now Schreiner has made location for another test 600 feet north of it. Tests have been drilled east, west and south of it without success.

North Louisiana Area Has 15 New Operations; Activity in Mississippi and in Cass County

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Feb. 26.—To offset a disastrous week of completions, the North Louisiana district kept interest alive by reporting more than 15 new operations, and several good blocks in the making, on which there has been good geological reports. Some of the other districts in this division also report increased activity of geophysical surveys covering wide areas. This is especially true of the lower one-third of the State of Mississippi, and in Cass County, East Texas, in the vicinity of the town of Atlanta. All indications point to the fact that this division will experience more wildcatting during the coming year, that is, more intelligent wildcatting resulting from a more intensive study and survey of the areas to be prospected. A boon to the small operator is the interest shown recently by several of the major companies of this district in co-operating with them on hitherto unexplored blocks.

NORTH LOUISIANA

In the northern part of Caddo Parish, in the vicinity of Vivian, the Shoreline Oil Co. has started the first of three tests to be drilled in that area in search of shallow production. Its No. 1 Dawes, Section 36-22-16, has set 10-inch surface casing at 40 feet and 6-inch at 1,033 feet. These operations are backed by M. J. Grogan and associates of Shreveport and East Texas, and the contract has been given for drilling three wells to the Tippett Drilling Co. of Shreveport.

In East Carroll Parish, O. G. Collins has derrick pattern on location for his No. 1 Phillips in Section 64-22-12e. The test, located on a block of approximately 30,000 acres, is about 3 miles north of a wildcat drilled by the same operator and Pat Marr more than a year ago. The subsurface structure on this well checked high enough to warrant further drilling. The wildcat is about 3 miles south of the Chicot County line of southern Arkansas.

Two new tests have recently been started in Rapides Parish, in the central part of the State, along the Conroe-Jackson trend. J. C. Prine's No. 1 Baum, Section 27-6n-2e, is drilling at 1,304 feet, and Ben Banner's No. 1 Bentley Lumber Co., Section 11-6-6, is a derrick pattern.

Bossier Oil & Gas Co.'s No. 2 Sherrill, Section 13-19-12, a few miles west of the Bellevue Field, Bossier Parish, will be watched with interest. The test is practically an offset to one drilled several months ago, and which developed considerable gas with a large quantity of salt water. It is thought by the operators that the first test was drilled too deep. A wildcat drilled 10 years ago, about one-quarter of a mile northeast, developed a flow of 10 to 15 bbls. of pipe line oil by heads from the same horizon. In the same parish, west of the town of Plain Dealing, McKinney & Stewart's No. 1 Nattin, Section 22-22-14, has set 6-inch casing at 1,465 feet with the total depth at 1,500 feet. There is no report of what kind of sand was cored before casing was set.

Additional leases obtained during the past two weeks by J. P. Evans in the vicinity of Sibley, Webster Parish, indicate further drilling in that area. The block south of Sibley, on which three dry holes were recently drilled, is being built up to the north and it has been reported from a reliable source that a major company will take over part of the acreage and drill from one to three test wells. The first tentative location has been made about three miles north of J. P. Evans' No. 1 Burson, Section 27-18-9, which had the best show, both in the Blossom and Woodbine, of any of the three wildcats drilled on the old block.

Eleven Completions

The North Louisiana district had 11 completions during the past week, 7 of which were dry holes, 1 gas well and 3 oil wells. Three of the dusters were rank wildcats, and four were semiwildcats on the flanks of proven areas. On a large geophysical block in the northwestern part of Bossier Parish, Gulf Refining Co.'s No. 1 Luther Ford, Section 8-22-13, was abandoned as dry at 3,750 feet. The well tested dry in the Blossom sand at 2,727 feet, and the total abandonment depth is probably in the lower Woodbine. Coker Oil Corp.'s No. 1 Mary Huson, Section 8-12-14, DeSoto Parish, tested only a small amount of gas at 3,103 feet and was abandoned at that depth. This well blew out a few weeks ago with an estimated flow of 6,000,000 feet of gas from 2,935 feet, but bridged over and further tests failed to revive the showing.

In Red River Parish, H. M. Jones' No. 1 Sample, Section 10-14-11, tested salt water with a show of oil in the Nacatoch at 992 feet. The top of the Arkadelphia was logged at 873 feet, the top of the chalk at 1,040 feet and the Woodbine at 2,598 feet. The well was abandoned in the latter formation at 2,622 feet.

United Gas Public Service Co.'s No. 2 Tony Durrett, Section 8-19-5, an edge well in the Sugar Creek Field, Claiborne Parish, was abandoned at 4,659 feet in sand and shale without a reported good show after contacting the Glen Rose Oolitic lime. Another flank well in the Blanchard gas field, Caddo Parish, Louana Oil & Gas Co.'s No. 2-A Hammock, Section 5-18-16, was a duster at 2,800 feet. This is one of a few dry holes drilled to date in that area. The other two failures were in the Zwolle East Field, failing to hit a crevice in the chalk.

The one gasser reported was from the Ouachita area of the old Monroe Field. Inabnet and Pipes' No. 4 Nelson, Section 33-19-4e, gauged 1,200,000 feet from 2,189 feet. The rock pressure was 825 pounds. The Converse Field, Sabine Parish, furnished all three of the producers, one from the chalk and two from the newly discovered sand a few feet below the base of Annona chalk. Lanier & Rodgers' No. 1 Paul, Section 10-9-13, after using acid in the chalk at 1,900 feet, is pumping 100 bbls. daily. In the same Section, Reese and Martin's No. 1 Allen is a 50-bbl. pumper from 12 feet of sand at 2,021 feet, and Nick Barbare's No. 1 Burkett is pumping 15 bbls. daily from 4 feet of sand from a total depth of 2,018 feet.

ARKANSAS

A few miles west of the town of Lewisville in Bradley County, Earl Fox, independent operator of Shreveport, has reassembled 4,700 acres centering around Section 36-16-25, and will drill a test at an early date. This acreage was assembled and drilled by the same operator and the late Frank Foster more than a year ago, but the log revealed that the test was directly on a fault just north of where the present well will be drilled. It is understood two major companies are hot on this immediate area and either one or both will co-operate in drilling the test. A number of core tests drilled in the vicinity, known as the Sour Lake area, a number of years ago by one of the major companies, indicates a closure, covered by the present block.

The Arkansas district had only one completion during the week. Texarkana Oil Corp.'s No. 2 E. L. Beck, Section 33-15-26, Miller County Field, is pumping 200 bbls. daily of pipe line oil from 2,931 feet. The well is an offset to the west of the discovery well and within previously proven production. Arkanva Oil Corp.'s No. 1 Smith in the same section and just outside of production lines on the west is still experiencing trouble with sucker rods and is shut down temporarily waiting on new ones. The well pumped 400 bbls. in 36 hours about two weeks ago. E. L. Young, trustee, formerly Gleason-Wendell Drilling Co.'s No. 1 Patterson, Section 5-19-28, a wildcat in the southern part of Miller County, has resumed operations after a shut down of four months. The test is coring in chalk rock at 2,910 feet.

Cass County, East Texas

Added interest in the Atlantic area has been caused by reported torsion balance surveys by the Mid-Kansas Oil & Gas Co. and seismographic shots in the eastern part of the county by Arkansas Natural Gas Co. Broderick and Calvert's No. 1 Cagle, in the H. Cunningham Survey, is reported to have had a good showing of oil and gas from 3,812-22 feet. The operators are attempting to whipstock nine joints of drill stem at 3,620 feet and make a test at the total depth. Several major companies, including the Sun Oil Co. are reported holding large tracts of leases in this area.

Daily Average Runs

The fields of North Louisiana had a net increase of 495 bbls. in the average daily runs, but Arkansas declined 325 bbls. to make a net increase for both districts of 170 bbls. daily. The daily average runs from the several pools were:

NORTH LOUISIANA

Caddo, light	4,665
Caddo, heavy	1,380
Converse	1,230
Cotton Valley	550
DeSoto and Red River	1,495
Elm Grove	330
Haynesville	3,750
Holly	200
Homer	2,625
Pleasant Hill	235
Sarepta-Carterville	870
Urania	3,000
Zwolle	8,410
Total North Louisiana	28,740
Total previous week	28,245
Increase	495

ARKANSAS

Champagnolle	1,210
El Dorado	2,445
Lisbon	400
Miller County	845
Nevada	535
Smackover, light	2,495
Smackover, heavy	20,300
Stephens	630
Urbana	2,400
Total Arkansas	31,260
Total previous week	31,585
Decrease	325
Total both states	60,000
Total previous week	59,830
Increase	170

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BOSSIER PARISH

Company, well, farm name, section and block— Remarks:

C. E. Reid, tr.'s No. 1 Dotys, 730 ft. S, 618 ft. W, NE SE Sec. 7-16-11 ..... Blowing est. 1,000,000 ft. gas and S.W.; 3,020 ft.

CADDO PARISH

W. O. Bliss' No. 1 McDade, 330 ft. N and E, SW cor. NW NW Sec. 2-20-15 ..... Set 6-in. 1,350 ft.; T.D. 1,640 ft.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 300 ft. W, SE cor. NW NE Sec. 18-11-3e ..... D.S. stuck 2,080 ft.

CATAHOULA PARISH

T. R. Hincey's No. 1 Millaspa, Sec. 32-9-4e ..... Derrick.

CLAIBORNE PARISH

Haynesville Partnership's No. 1 Anna Taylor, 330 ft. N and E, SW cor. SE SW Sec. 11-23-8 ..... W.O.S.R. 4,595 ft.

DE SOTO PARISH

Coker Oil Corp.'s No. 1 Huson, 200 ft. S, 500 ft. W, NE cor. NW Sec. 8-12-14 ..... Dry and abnd. 3,103 ft.

Geo. M. LeGrand's No. 1 Faris, 330 ft. S and W, NE cor. SE Sec. 19-11-15 ..... Drlg. 2,410 ft.

MOREHOUSE PARISH

Zeiger & Bacon's No. 1 Crossett, 400 ft. N, 300 ft. W, SE cor. Sec. 41-23-4e ..... Drlg. 1,391 ft.

CONVERSE DISTRICT

Arrock Oil Co.'s No. 1 Hewitt, 330 ft. N and E, SW cor. NE SE Sec. 20-9-13 ..... S.D.; W.O. 1,606 ft.

J. F. Anderson's No. 1 Burkett, 1125 ft. N, 855 ft. E, SW cor. NW Sec. 10-9-13 ..... W.O.S.R. 1,921 ft.

Nick Barbare's No. 1 Bolton, Sec. 9-9-13 ..... Drlg. plug 1,705 ft.

Nick Barbare's No. 1 Burkett, 500 ft. N, 900 ft. E, SW cor. NW Sec. 16-9-13 ..... Comp. pumping 15 bbls. 2,018 ft.

Clyde Bell's No. 1 Burkett, 280 ft. N, 165 ft. E, SW cor. Sec. 10-9-13 ..... Coring 2,015 ft.

J. W. Bettis et al's No. 1 Frost Lbr. Ind., 330 ft. S and W, NE cor. SW Sec. 15-9-13 ..... Rigging up.

Cleary Brothers' No. 3 Harris, 100 ft. N and E, SW cor. Lot 21, Sec. 16-9-13 ..... Set 10-in. 40 ft.; drlg. 800 ft.

A. G. Craig's No. 1 Bolton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13 ..... S.D. 1,150 ft.

Florence Oil Co.'s No. 2 Crawford, Sec. 20-9-13 ..... Rigging up.

Alfred Glassell's No. 1 Tatum, 330 ft. N and W, SE cor. NE NW Sec. 9-9-13 ..... S.D.; W.O. 1,942 ft.

L. D. Higgins et al's No. 1 Burkett, 330 ft. S, 270 ft. W, NE cor. Sec. 16-9-13 ..... Set 6-in. 1,762 ft.

R. P. Holland et al's No. 1 A. J. Burkett, 990 ft. N 330 ft. W of C, Sec. 10-9-13 ..... Arranging to deepen 1,850 ft.

T. J. Johnson's No. 1 Lynch estate, 330 ft. S and W, NE cor. NW SE Sec. 29-9-13 ..... Using acid 1,992 ft.

Lanier & Rodgers' No. 1 Paul, 360 ft. N, 40 ft. E, SW cor. NW, Sec. 10-9-13 ..... Comp. pumping 100 bbls. 1,900 ft.

(Continued on Page 78)

Setback Is Reported in the Cleveland District; New Deep Sand in East Hackberry Field

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Feb. 26.—The Cleveland district of northwestern Liberty County received a setback the past week when Gulf Production Co.'s No. 2-C Kirby, located 1,866 feet south of the discovery well, showed salt water in a drill stem test of sand and shale at 5,895-5,901 feet. Brown & Wheeler's No. 1 Goldberg, located over a mile and a half to the southwest of the discovery well, also has failed to pick up any showings although late in the week was coring below 5,895 feet in the Cockfield.

The discovery well, Gulf Production Co.'s No. 1-C Kirby, completed last December, so far is the only production for the field. It is in a sand topped at 5,716 feet with bottom at 5,732 feet in shale. This sand, believed the equivalent of the Upper Cockfield sand at Conroe, evidently was passed by the second Gulf test, whose bottom at latest report was below 6,000 feet or more than 268 feet below that of the discovery well.

On the top of the Cockfield, the second Gulf well was only 65 feet lower than the discovery well, the top being minus 5,507 feet with an elevation of 141 feet. The Brown & Wheeler Goldberg test found the top of the Cockfield at minus 5,586 feet with an elevation of 135 feet, or only 14 feet lower than the first Gulf well.

With these developments to the south and southwest, interest now is directed to Gulf Production Co.'s No. 1 Grogan, in the Clayton Harper Survey, approximately 4,000 feet to the north and slightly west of the discovery well. This is a "mystery" test, but late in the week was reported coring below 4,600 feet and should be in the Hockleyensis. It holds the key to the importance and trend of the field, although various theories now are being advanced as to possible trends. However, the only thing definite seems to be the fact that the field for the present is cut off to the south, and also to the southwest.

The possibility of a northeastward trend is to be given a test at once with the location the past week by Denton & Akin for a wildcat in the Rozelle Survey on the Quinn tract, approximately 7½ miles northeast of the discovery well. Two other locations previously have been announced for the district, these being southeastward from the discovery well. One of these, Wilcox Oil & Gas Co.'s No. 1 Cousins, being drilled by Turnbull & Irwin, is about 4 miles southeast, and the other, Harry Sample and others' No. 1 Security Trust, in the J. Faulk Survey, 6 miles southeast.

Splendora District

The Splendora district of southeastern Montgomery County, approximately 8 miles to the west of the Cleveland discovery well, was being watched closely the past week with the report that Steen Drilling Co.'s No. 1 Texas Long Leaf, Walker County School Land Survey, was running from 280 to 300 feet high. At latest report it was coring below 4,530 feet in shale and should be close to the Hockleyensis. Other markers which have been established fairly definitely are the Catahoula at 2,139 feet and the Vicksburg at 3,945 feet. Elevation is 131 feet.

Hamill & Smith's No. 1 Foster, Pryor Bryan Survey, approximately 5 miles southeast of Splendora, is drilling below 4,300 feet. This is a "tight" well and very little information is available.

Van Vleck Area

Skelly Oil Co. late in the week was running 7-inch casing in its No. 1 Cobb, wildcat, in the Van Vleck area of northern Matagorda County. This test, the first on the block, which was taken several months ago on the strength of geophysical findings, has sand showing gas with a distillate odor at 7,023-43 feet, and is taken as a forerunner of another new field. The hole previously was drilled to a total depth of 7,178 feet and plugged back to its present depth, where it has been standing for a couple of weeks.

East Hackberry

A new deep sand in the northwest flank extension district of the East Hackberry Dome, Cameron Parish, Louisiana, was opened for production during the week with the completion by Union Sulphur Co. of its No. 1 Barbee, flowing 500 bbls. daily through a three-eighths inch choke with pressure of 815 pounds. Bottom of the hole is 7,598 feet, making this well the deepest commercial producer on the Louisiana coast. On the northeast flank of the dome there is a well (Gulf Refining Co.'s No. 12-A Irwin) producing from a depth of 7,475 feet. The two other wells on the northwest flank of the dome in the vicinity of the Barbee well have found a sand showing oil in the 8,300-foot horizon, but mechanical difficulties prevented completion of them. Other production in the vicinity is from a 6,000-foot sand. The Barbee well is the most northwesterly of the others so far drilled and is on a 20-acre lease recently acquired.

South of Edgerly

Yount Lee Oil Co.'s No. 1 Louisiana Sulphur Co., located a mile south of production at Edgerly, Calcasieu Parish, has been abandoned at a total depth of 8,410 feet. It not only is the deepest test, by far, at Edgerly but also is among the deepest tests ever drilled on the Louisiana coast. Several weeks ago it created considerable interest when it tried to blow out from a sand around 7,930 feet. Previously, deepest drilling at Edgerly has been at 6,000 feet, and few tests have ever been taken below 4,500 feet.

Roanoke

Humble Oil & Refining Co. again swabbed salt water in its No. 2 DeVilbiss at Roanoke, Jefferson Davis Parish, in another test of the deep sand at 8,423 feet and now is pulling screen and liner. It is probable additional tests will be attempted of several sands which were found higher up in the hole from the casing seat at 8,242 feet on down. Shell Petroleum Corp.'s No. 1 Kratzer, located a mile north of the Humble deep hole, late in the week was drilling below 6,345 feet. It is anticipated this test will go to 8,500 or 9,000 feet.

Darrow Dome

Turnbull & Irwin's No. 1 Community, Darrow Dome, Ascension Parish, Louisiana, cored sandy shale showing oil at 4,612-15 feet. After another 3-foot core is taken, a drill stem test probably will be attempted. This well is located 300 feet south of a well drilled by Rio Bravo Oil Co. and completed in September, 1932, flowing initially at the rate of 1,000 bbls. daily through a quarter-inch choke from sand at 4,035 feet. The well, after being shut in for some time, went to water and eventually was deepened to 4,900 feet in salt and abandoned. Rio Bravo drilled two other tests on the block, one of which made a small pumper at 4,827 feet and the other a dry hole in salt at 6,052 feet, and then turned the block back to Gulf Refining Co., from which company it had been obtained on a working basis. The present operators took over the block only recently.

Lockport Field

Magnolia Petroleum Co.'s No. 4-A Watkins fee, deepest test drilled in the original Lockport Field, Calcasieu Parish, is down 7,078 feet. The well tried to blow out the middle of the week while pipe was being pulled out of the hole but the gas was killed successfully. The gas is believed to be from a sand found higher up at 6,890 feet. In view of the fact that production in that area is all above 5,000 feet, this test is of particular interest. The same company's No. 11 Bordages, in the west extension of the field, at latest report was testing sand at 6,691-97 feet after drilling cement plug at 6,690 feet.

Coleto District

In the Coleto district of western Victoria County, Houston Oil Co.'s No. 1 Victor Urban proved up another sand for gas production by its completion at 2,163-71 feet, making an estimated 2,000,000 feet daily through a seven-sixteenths inch choke with pressure of 480 pounds on the casing and 700 pounds on tubing. While numerous sands have been encountered by other tests drilled in the district the only other commercial production so far has been in a 4,400-foot horizon, in which two wet gassers have been completed. One of the latter, the discovery well, since completion has started making some oil.

Harris County

American Liberty Oil Co.'s No. 1 Clappert-Lewis, W. C. Ry. Survey, Block 4, Section 9, in the Aldine district, north of Houston, Harris County, cored 23 feet of sand showing some gas at 3,198-3,220 feet and at a depth of 3,250 feet was preparing to make drill stem test. This test topped the Heterostegina at 3,070 feet less elevation of 117 feet.

Tomball, Harris County, added two more producers with the completion by Humble Oil & Refining Co. of its No. 1 Hoffman flowing 14 bbls. per hour, one-quarter inch choke, 5,577 feet, and Amerada Petroleum Corp.'s No. 2 Nelson, 20½ bbls. per hour, one-quarter inch choke, 5,577 feet.

Matagorda

United North & South Development Co.'s No. 1 Unit 6, Buckeye, Matagorda County, deepest test drilling on the Gulf Coast, at latest report was still making hole below 9,020 feet. Deep drilling has marked all development at Buckeye but so far this is the deepest hole.

San Jacinto

Turnbull & Irwin have made location and are moving in for a test on Shell Petroleum Corp.'s Peach Creek block in San Jacinto County. The location is No. 1 Fitzgerald, Gowan Harris Survey, 3,300 feet from east line and 1,320 feet from north line of tract.

Weaver & Crimm have abandoned as dry their No. 1 Delta, Sam Lusk Survey, San Jacinto County. This test, north of the Cleveland play in Liberty County, went to a total depth of 5,201 feet.

Gulf Coast Fields and Wildcats

Week Ending February 24

MANVEL—BRAZORIA COUNTY

Company, farm and location—	Remarks:
Texas Co.'s No. 7-A Belcher, 1,430 ft. S 48 deg. E. 900 ft. W 42 deg. E from NW cor. of W. T. Belcher "A" lease, H. N. Little Sur.	T.D. 5,853 ft.; P.B. 5,199 ft.; sidetracked to 5,528 ft.; P.B. to 5,176 ft.; sidetracked 5,123 ft.; odor oil 5,448-51 ft.; drlg. sand and shale 5,451 ft.
Texas Co.'s No. 9-B Belcher, 2,691 ft. N 42° E from S cor. H. N. Little Sur., and 330 ft. NW at R/A from survey line	Derrick.
Texas Co.'s No. 4 O. F. Ewing, 415 ft. from NW line, Lot 8, and 787.2 ft. from NE line, H. N. Little Sur.	Drlg. sand, shale and lime at 4,537 ft.
Texas Co.'s No. 1 S. Scopal, 5,835 ft. from S line and 348 ft. from E and W lines of Lot 25, H.&T.B. Sur., Sec. 74	Drlg. shale and lime 4,605 ft.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 5 Seaborn, Austin-Williams Sur., 600 ft. E of No. 3 and 229 ft. S at R/A	T.D. 5,909 ft.; lost hole to 1,137 ft.; redrlg. shale 3,726 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Miramar Oil Corp.'s No. 1 Hogg, Martin Varner League, 2,500 ft. S line, 50 ft. W line, 200-ac. tract	Drlg. sand and shale 4,310 ft.

BARBERS HILL—CHAMBERS COUNTY

McAlbert Oil Co.'s No. 2-A Higgins (W.O.), Hodges Sur.	T.D. 5,230 ft.; fsg. drill pipe at 5,168 ft.
Mills Bennett Prod. Co.'s No. 1-D Barber, 78 ft. S. 65 ft. W of NE cor.	Shale 4,792 ft.; cmtd. back to 3,754 ft.
Mills Bennett Prod. Co.'s No. 4 Means, 150 ft. W of No. 3, Henry Griffith League	T.D. 5,454 ft.; P.B. to 4,700 ft.; sidetracked to sand 4,839-62 ft.; drlg. hard sand 4,931 ft.
Humble O. & R. Co.'s No. 5-B Kirby, Henry Griffith League, 925 ft. W of E line, 537 ft. N of S line of tract	No report.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Oil sand 4,830-10 ft.; reaming to set 5-in. liner; T.D. 4,870 ft.
Sinclair Prairie Oil Co.'s No. 17 Wilburn, 125 ft. N of S line, 150 ft. W of No. 16, H. Griffith League	Losing returns, lime 1,278 ft.
Sun Oil Co.'s No. 15 Wilburn, 405 ft. from E, 50 ft. from W line	Drlg. rock 3,218 ft.
Sun Oil Co.'s No. 17 J. Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	T.D. 4,249 ft.; sand; W.O.C.
Sun Oil Co.'s No. 18 J. Wilburn, Henry Griffith League, 50 ft. N of S line, 50 ft. E of W line of lease	T.D. 4,524 ft.; P.B. 2,929 ft.; sidetracking in shale 4,278 ft.

(Continued on Page 74)

Increased Crude Allowable in California Districts May Result in More Effective Curtailment

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Feb. 26.—The increased allowable daily production of California for the month of March, as approved by Secretary Ickes, has met with universal approval, and in the opinion of many operators will result in more effective curtailment. January crude oil production in California averaged 456,886 bbls. per day, or 19,286 bbls. in excess of the prescribed quota of 437,600 bbls. A substantial part of the excess recorded during January was due to the failure of a number of operators to conform with production orders as issued by the umpire. It is likely, therefore, that crude oil production in March will be somewhat in excess of the state's revised allowable of 453,900 bbls. per day, unless pressure is brought to bear against violators and aggressive action undertaken to force compliance with the curtailment program.

Oil produced in excess of the prescribed allowable has exerted an unfavorable effect on refined oil prices in California during the past several weeks. As a result of this condition, major companies were obliged to reduce gasoline prices approximately 1 cent per gallon in Southern California and there is a possibility that further price reductions will materialize before the marketing cartel becomes effective. The effectiveness of the cartel will be restricted unless the Central Committee of California Oil Producers can eliminate production in excess of the allowable quota. Sponsors of the cartel are hopeful that this marketing policy will eliminate unethical competition and while it will no doubt prove especially beneficial, we must not lose sight of the fact that price cutters have refused to ratify the cartel and consequently will continue to be disturbing factors.

Promising Wildcat

The Western Gulf resumed work on No. 1 K.C.L., a wildcat north of Coalinga in Fresno County, and this test will bear watching during the next several weeks as it is showing considerable gas pressure and may possibly open up a new field of major importance. The company landed a string of 9⅝-inch in this well last week at approximately 7,200 feet with the bottom of the hole at 7,893 feet. The Western Gulf found the Temblor barren in this wildcat but has apparently encountered something of unusual promise in either the Kreyenhagen or Tejon formation of Eocene age. Upon drilling out the cement, the crew was obliged to use extremely heavy mud in order to keep the well under control. The significance which attaches to this wildcat lies in the fact that if the Western Gulf successfully opens up a new field in Section 15-17-15, it will undoubtedly lead to deep drilling in the Coalinga Field. The Western Gulf has approximately 100,000 acres blocked out around its wildcat and it will consequently control practically all of the potentially productive acreage. This will assure normal development in the event that a new field is opened.

The General Petroleum has passed the 10,100-foot level in No. 1 Berry, a deep test in the South Belridge Field of Kern County. With the exception of some gas and a few minor showings, this test has not looked especially encouraging up to the present time. The General Petroleum is to be congratulated for its tenacity of purpose in the drilling of No. 1 Berry, because if the bit ever succeeds in drilling through the brown shale, production may possibly be developed in the underlying Temblor or Eocene. This well has penetrated the greatest thickness of brown shale encountered in any California well, and the possibility of developing commercial production depends more or less upon the ability of the company to drill deep enough to pick up the Temblor if this formation is within reach. Associated Oil Co. is rotating in No. 1 Williamson, a deep test in the Lost Hills Field of Kern County, slightly below 7,400 feet, but has not succeeded in finding a sufficient thickness of oil sand to result in production. This test, which is being drilled in conjunction with the Richfield Oil Co., has been a costly one due to water trouble which necessitated the landing of several strings of casing.

Mountain View

Long Beach Petroleum Co.'s No. 1 Vedder Petrol in the Mountain View Field of Kern County stopped flowing during the early part of the current week and the hole is being cleaned out preparatory to a resumption of production. The success of the company's attempt to recomplete the well depends upon whether the hole sanded up or the well ceased production due to lack of sufficient gas pressure. If the cause was due to declining pressure, it will indicate that the Mountain View Field will not be as important as preliminary estimates indicate. Mohawk Petroleum Co. conducted a potential production test on No. 3 Hood several days ago and this well flowed at the rate of 2,240 bbls. of 26.1 gravity oil per day. The company's No. 1 Clendennen is holding up as regularly as clockwork at 1,240 bbls. per day.

Several additional wells are scheduled to get under way in the Mountain View Field within the next 10 days and the field is consequently taking on the aspects of a successful producing area. George W. Black has material on ground for a new well to be drilled in Section 24-30-28 and M. A. Fox has started rig construction for No. 2 Bristol, which will be drilled in Section 25-30-28. The Petro Well Production Co. is rigging up rotary equipment in No. 1 Bloemer and the Hubro Oil Corp. is putting the finishing touches on the rig for No. 1 Noble-Petrol. The Severns Drilling Co. spudded in No. 1 Smith a few days ago, having been delayed about a week because of the necessity of skidding the rig to a new location in order to conform with setback requirements which stipulate a setback of 330 feet from property lines. Hogan Petroleum Co. is preparing to redrill No. 1 Haley in an effort to complete this well as a small producer instead of abandoning it as a duster at 6,060 feet. This well apparently drilled through a cross fault and the company will attempt to deviate the hole in such a way that it will intercept the productive strata within the limits of the field. The Union Oil Co. has resumed work on its No. 1 Mountain View, in the extreme western end of the field, following a recement job on the 8⅝-inch landed at 5,609 feet.

Midway-Sunset

The Honolulu Consolidated completed its No. 15 in the Midway-Sunset Field of Kern County during the early part of the week and this new well, located in Section 14-32-24, was brought in under a natural flow doing 850 bbls. of 26.1 gravity oil per day from 2,999 feet with a water shutoff effected at 2,919 feet. This well failed to equal the initial daily production of the company's No. 23, which was finished in December, 1933, doing 3,900 bbls. per day from 2,898 feet, but is nevertheless a satisfactory commercial producer. The Standard is starting two new wells in sections adjoining the acreage of the Honolulu Consolidated and one of these projects, No. 61-15-D, in Section 15-32-24, is expected to be spudded in within the next several days. In Section 11-32-24, the Standard is building rig for No. 19-11-D. These two wells are scheduled to be completed in the Honolulu zone at approximately 3,000 feet.

The Mount Poso Field of Kern County is expected to be relatively active during the next several months due to additional drilling scheduled to be undertaken by the General Petroleum, Shell, Union and other operators. The Shell has just landed casing in No. 1 Mathews in Section 4-27-28 and should finish this well within the next 10 days. On offsetting acreage, the Union has spudded in No. 9 S.&M. and is building rig for No. 10. The General Petroleum is rigging up rotary drilling equipment on No. 9 Heisen in the Mount Poso Field and is scheduled to spud in this well within the next 10 days. In Section 21-27-28, the company failed to secure a natural flow in No. 10 Glide upon completion at 1,970 feet and the well is being rigged up to pump. The Honolulu Consolidated is expected to spud in No. 18-1-A in the Round Mountain Field within the next few days. This well, located in Section 18-28-29, will be the first of several which the Honolulu contemplates drilling in the Round Mountain Field during the current year. The company resumed partial production following a complete suspension of producing activities in the Round Mountain Field about two years ago. It is the present intention to open up additional wells within the next 30 days.

Long Beach

The Long Beach Field of Los Angeles Basin has shown a consistent increase in development work during the past several weeks and is expected to register a further gain within the next few weeks. Whipstocking operations started in this field several months ago have been responsible for the completion of several good wells during the period in question. This crooked hole drilling has centered around the edge of the Long Beach Cemetery where operators have succeeded in deviating wells and completing them in what constitutes an excellent drainage area. The area immediately adjacent to the cemetery property has been especially productive due to extensive drainage area resulting not only from the areal extent of the cemetery but augmented by relatively wide streets which bound the cemetery property. During the early part of the current week the Allied Petroleum Corp. made a potential production test of No. 12 Signal and this well showed a maximum production of 1,158 bbls. of 28.9 gravity oil per day. This well was originally completed in December, 1933, pumping 507 bbls. per day from 4,807 feet. In conducting the potential test, the company put the well on a compressor and more than doubled the output with the well on the beam. The Petroleum Production Co. completed No. 1 Mun in the Long Beach Field during the early part of the current week, and this new well, bottomed at 4,650 feet and finished with a 4¾-inch liner including 580 feet of perforated, was brought in on a compressor doing 126 bbls. of 27.1 gravity oil per day. The Shell Oil Co., discoverer of the Long Beach Field, is drilling two new wells on the Andrews lease and has spudded in No. 41 Alamitos. Rio Grande Oil Co.'s No. 2 Law, bottomed at 6,928 feet but plugged back to 6,237 feet, blew out several days ago after the casing had been perforated at 6,130-6,200 feet. The well got beyond control and blew for several days at the rate of approximately 25,000,000 feet of gas per day. It was brought

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	February 11		February 4			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—					92,770	
Crude oil	344,199	49,186	218,638	31,234	1,780,760	74,775
Fuel oil	159,786	22,827			311,838	521,454
Diesel and gas oil	193,191	27,685	74,374	10,625	670,759	805,972
Gasoline	56,659	8,093			136,279	330,666
Kerosene						15,252
Other finished oil						
Foreign exports—						
Crude oil	147,832	21,119			806,509	849,485
Fuel oil	316,328	45,190	180,413	25,773	1,092,871	850,511
Diesel and gas oil	22,423	3,203	131,412	18,773	341,252	393,774
Gasoline	68,084	9,726			534,952	810,161
Kerosene	112,215	16,031			177,403	266,841
Coastwise-domestic—						
Crude oil	62,590	8,941	31,975	4,568	182,043	1,102,414
Fuel oil	350,896	50,128	170,397	24,342	1,415,562	1,417,116
Diesel and gas oil	7,017	1,002			68,461	256,555
Gasoline	206,226	29,461	181,109	25,873	1,350,906	1,454,480
Kerosene					7,392	19,947
Naphtha distillates						27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	34,171	4,882	105,556	15,079	237,720	203,476
Gasoline					73,625	78,212
Kerosene					80,925	222,930
Lubricants					8,310	
Foreign exports—						
Crude oil					183,202	192,748
Fuel oil			15,102	2,157	125,204	129,709
Diesel and gas oil					144,274	155,353
Gasoline			67,145	9,592	332,139	790,184
Kerosene			9,075	1,296	86,987	129,143
Lubricants					19,955	20,926
Other unfinished oil						4,881
Coastwise-domestic—						
Fuel oil			83,167	11,881	349,313	373,220
Diesel and gas oil	13,212	1,887	10,476	1,497	49,287	34,134
Gasoline					293,539	440,575
Kerosene					7,317	17,801

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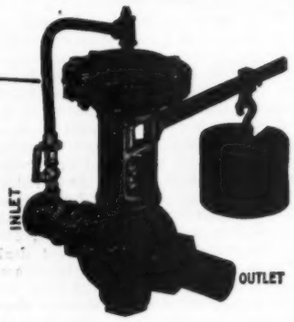

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under control and is producing 1,020,000 feet of gas.

Fruitvale

The Western Gulf, discoverer of the Fruitvale Field, has landed a string of casing in No. 1 Pugh, a new well in the Fruitvale Field of Kern County, and will probably conduct a production test within the next 15 days. The company got a wet job in No. B-13 on the Kern County Land Co. lease and has plugged back the hole from 3,860 feet to 3,356 feet. Alta Oil Corp. has plugged back its Union Avenue wildcat from 6,457 feet to 5,000 feet and is preparing to make an open hole test. The only casing landed in this hole up to the present is 500 feet of 13⅜-inch pipe. In the Wheeler Ridge-Tejon district, preparations are being made to resume drilling operations on the Badger Oil Co.'s wildcat which was suspended a few weeks ago at 5,183 feet. The Badger Oil Co. concluded work several months ago and made a deal with the Doyle Petroleum whereby the latter would undertake additional work. The Doyle interests pulled out of the project a few weeks ago and drilling will be resumed at 5,183 feet by new interests.

The Shell Oil Co. is making good footage in No. 1 Premier, a wildcat in the Gould Hills district of Kern County, but it will probably be another several weeks before a sufficient depth is reached to make the test especially interesting. The North American Oil Consolidated is building rig for a wildcat to be drilled on the Quinn Ranch in the Jasmine district in Section 25-25-27. The Ohio Oil Co. has landed and cemented a string of 11¾-inch casing in No. 1 K.C.L. at 5,652 feet. This wildcat, located at the extreme eastern end of Buena Vista Lake in Section 31-31-26, is bottomed at 5,664 feet. This well has considerable merit and should either prove or disprove the effectiveness of seismological work in this particular section of the San Joaquin Basin. The Shafter Oil Syndicate recently spudded in a new wildcat near Shafter in Kern County, but this well is really only getting under way at present.

Huntington Beach

Drilling operations in the Huntington Beach town lot area have been tapering off during the past several weeks and operators are showing a more constructive attitude with respect to curtailment. Litigation involving exploitation of state tiedelands has not yet been adjudicated with the result that additional suits are being filed from time to time. If operators and state officials could get together and amicably adjust their specific problems this would have a very beneficial effect on both the curtailment of production and the stabilization of refined oil prices. This would be particularly true if in the negotiation of leases state officials would make it obligatory for all operators to adhere to the curtailment program. This policy has been adopted and while practically all of the operators involved are in sympathy with curtailment there are still a few irreconcilables who have been taking undue advantage of neighbors producing from the same zone. It is quite obvious that by the elimination of gas waste and an extension of the productive life of the field the state and oper-

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
General Pet., No. 7 Capitan, Santa Barbara Co.	32- 5-30	1,427	pump 80 B/D
General Pet., No. 9 Capitan, Santa Barbara Co.	32- 5-30	rig	suspended
Shell Oil Co., No. 2 Capitan, Santa Barbara Co.	32- 5-30	1,002	sd. sh. drilling
Lincoln Drlg. Co., No. 3 Summerland, Santa Barbara Co.	21- 4-26	2,803	suspended
Dietzmann, J., No. 1 Summerland, Santa Barbara Co.	16- 4-26	3,846	plug 3,685
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	1,991	sd. sh. drilling
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-34	3,000	suspended
Barnsdall-Rio Grande, No. 8 Doty Elwood, S. Barbara Co.	15- 4-29	4,868	fishing D/P
Signal Oil & Gas Co., No. 2 Elwood, Santa Barbara Co.	tideland	5,112	reaming
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	....	material
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	3,950	will deepen
Union, No. 1 Santa Maria, Santa Barbara Co.	19-10-33	rig	rigging up
Richfield, No. 3 Rincon fee, Ventura Co.	17- 3-24	2,557	to deepen
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	suspended
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	3,357	recemented
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	572	hd. sh. drilling
Chappuis, Louis, No. 1 Sespe, Ventura Co.	1- 4-20	....	build. road
Kneiper & Atha, No. 1 Bardsdale, Ventura Co.	7- 3-19	1,720	suspended
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	790	suspended
Dabney, H. R., No. 1 Simi, Ventura Co.	22- 2-18	1,372	sd. sh. drilling
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,830	redrill 6,300
Laing & Jacobs, No. 1 Shiells, Ventura Co.	32- 4-19	721	cleaning out
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	1,680	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,803	cleaning out
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	6,030	fishing D/P
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,953	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Shell Oil Co., No. 1 Gould Hills, Kern Co.	21-29-21	2,368	sd. sh. drilling
Standard Oil Co., No. 1 McKittrick, Kern Co.	15-30-22	rig	rigged up
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,982	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	10,070	br. sh. drilling
Union Oil Co., No. 18 Belridge, Kern Co.	36-27-20	4,307	cemented
Wrenn, J. J., No. 1 Antelope Plain, Kern Co.	32-25-17	1,677	br. sh. drilling
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,178	suspended
North American, No. 1 Jasmine, Kern Co.	25-25-27	mtl.	building rig
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	7,381	hd. sd. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	1,801	cleaning out
Semafore Oil Co., No. 1 McVan, Kern Co.	14-27-27	rig	rigging up
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	suspended
Caribou Record Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	2,104	plug 2,073
Shafter Oil Co., No. 1 Shafter, Kern Co.	8-28-25	1,030	gr. sh. drilling
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26	5,664	cemented
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28	6,470	plug 5,000
Hall-Garner, No. 1 Mountain View, Kern Co.	25-30-28	rig	skid rig
Severns Drilling Co., No. 1 Mountain View, Kern Co.	24-30-28	521	sd. drilling
Union Oil Co., No. 1 Mountain View, Kern Co.	15-30-28	5,787	cleaning out
Hogan Pet. Co., No. 3 Shell Mountain View, Kern Co.	29-30-29	4,501	sd. sh. drilling
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	29-30-29	6,060	will redrill
Monterey Expl. Co., No. 1 Madison, Kern Co.	15-30-29	2,067	plug 2,027
Labadie, E. L., No. 1 Mountain View, Kern Co.	29-30-29	5,888	cleaning out
Standard, No. 1 Mountain View, Kern Co.	19-30-29	111	sd. drilling
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	1,860	br. sh. drilling
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	5,183	suspended
Gattom & Luethe, No. 1 Madera, Madera Co.	32-10-17	3,020	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-21	3,900	suspended
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-21	4,550	cleaning out
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	4,471	sd. sh. drilling
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	7,893	good showing
Hogan Pet. Co., No. 1 Joaquin Ridge, Fresno Co.	28-20-16	6,605	suspended
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	3-22-22	3,830	suspended
Panorama Oil Co., No. 1 Carrizo Plains, S. Luis Obispo Co.	2-32-21	mtl.	building rig
Farrel Pet., Well No. 1, San Luis Obispo Co.	18-31-12	1,095	cleaning out
Willet Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	rig	rigged up
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Triune Oil & Gas, No. 1 Tulare Lake, Kings Co.	5-23-20	230	suspended
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings Co.	21-22-20	920	suspended
Tulare Basin Oil Co., No. 1 Tulare Lake, Kings Co.	2-23-19	511	sd. drilling
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Douglas, J. M., Well No. 1, Monterey Co.	36-22-9	1,803	sd. sh. drilling
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8-3	3,750	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,760	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-12-3	6,381	hd. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16-1	2,731	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16-1	4,136	andesite—drlg.
Tehama Pet. Co., Well No. 1, Glenn Co.	4-22-5	4,696	suspended
Milham Exploration Co., No. 1 Tracy, San Joaquin Co.	5- 4-5	1,526	hd. sh. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23-1	3,890	sd. sh. drilling

ators in question would secure larger revenues.

Montebello

Drilling operations in the Montebello Field have shown a consistent increase during the past several weeks due to the failure of operators to agree on a constructive development program during the current year. Due to the diversity of opinion with respect to future development, it appears quite probable that the Central Committee of oil producers, the California oil umpire or the petroleum administrator will ultimately be obliged to intervene and assume dictatorial powers. It is reliably reported that operators have been unable to agree on a normal development program because of the contention of a minority group that they should be granted special privileges. Several operators have retarded development work in the hope that an amicable adjustment might be accomplished, but these operators cannot be expected to retard drilling operations indefinitely. The St. Helens Petroleum, which has been sitting tight for several weeks in the hope that a definite drilling program might be ratified, has found it necessary to start drilling operations in order to protect its acreage from undue drainage. This company has started rig construction for No. 6 P.&B. and will proceed to develop the deep Cruz zone.

Union Oil Co. is still sitting tight and has not yet started deep zone exploitation but will ultimately be obliged to do so if other operators continue aggressive development work. Standard Oil Co. has two projected deep zone completions under way in the Montebello Field at present and is building rigs for two additional projects which will be spudded in within the next several weeks. The Texas Co. has three wells making hole, while the Universal Consolidated, a subsidiary of Richfield Oil Co., is rotating in two new wells. The Inglewood Field of Los Angeles Basin, where operators have been endeavoring to formulate a conservative drilling program, is expected to show the starting of several new wells within the next few months. T. T. Nudson has started drilling operations on No. 1 Sentous and the Kieps Oil Co. and the Scientia Oil Co. are erecting rigs for immediate work. All three of these wells are located around the edge of the structure and the outcome of work on each is more or less problematical. The real increase in development work at Inglewood will become manifest when operators agree on a definite development program and proceed to carry it into effect. Two additional productive horizons are known to exist in the Inglewood Field and operators are somewhat desirous of exploiting at least one of these zones as they have retarded exploration work for several years, during which they have witnessed similar deep drilling in other areas and the discovery of two additional new fields.

Ventura Avenue

Associated Oil Co. has recompleted No. 14-A Lloyd in the Ventura Avenue Field and this well, redrilled and deepened to 5,158 feet and finished with a 4¾-inch liner carrying 1,367 feet of perforated and cemented through perforations at 3,791 feet, was returned to production flowing 325 bbls. of 29.2 gravity oil and 680,000 feet of gas per day. The Associated has two additional wells drilling in the oil sand in the Ventura Avenue Field at present and has two other wells approaching the pay. The General Petroleum is rigging up rotary drilling equipment in No. 13 Notten and this well, which will be spudded in some time during the next 10 days, is scheduled for completion in the deep 57 zone. In the Elwood Field of Santa Barbara County, the Barnsdall and Rio Grande have started preparations to begin drilling operations on No. 88-9-B and spud is expected to be made during the next 10 days. The Pacific Western Oil Co. has just spudded in No. 10 on tideland permit No. 92 and Caroline Spalding has put in foundation for No. 8, which will be drilled on tideland permit No. 93. The General Petroleum has recompleted No. 7 Erburu in the Capitan Field of Santa Barbara County, and this well was returned to production pumping 79 bbls. of 20.9 gravity oil per day after the hole had been plugged back from 1,478 feet to 1,427 feet.

BUREAU OF MINES MOVED

WASHINGTON, D. C., Feb. 26.—President Roosevelt has ordered the Bureau of Mines transferred from the Department of Commerce to the Department of the Interior. This would return the bureau to the Interior Department, where it was prior to the Hoover administration.

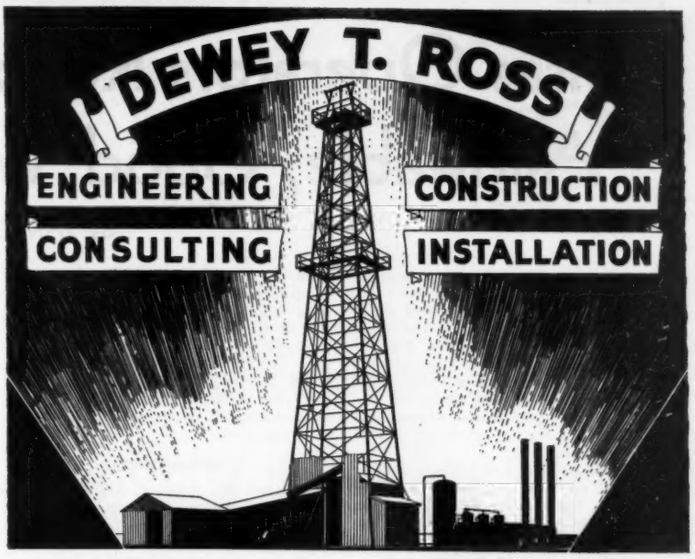
The President acted under the reorganization authority given him by the last session of Congress and sent a copy of his executive order to Congress for its information. The transfer will become effective in 60 days unless vetoed by Congress.

HUMBLE DIVIDEND

The directors of the Humble Oil & Refining Co. has declared the regular quarterly dividend payable April 1 to stockholders of record March 2. The dividend is 25 cents a share on the new stock of 9,000,000 shares. In mid-December the Humble company effected a change in the number of its shares, exchanging the former 3,000,000 shares of $25 par value for 9,000,000 shares of no par. Former dividends were 50 cents a share.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Clayton, G. L., No. 1 Clearwater, Los Angeles Co.	31- 3-12	3,220	sd. sh. drilling
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,034	suspended
Pacific Dev. Co., No. 1 Watts, Los Angeles Co.	16- 3-13	3,902	suspended
Dominguez Oil Co., No. 1 Dominguez, Los Angeles Co.	34- 3-13	rig	rigging up
Quinn, J. B., No. 1 Dominguez, Los Angeles Co.	3- 4-13	rig	rigging up
Mutual Oil Co., No. 1 Dominguez, Los Angeles Co.	3- 4-13	3,401	sd. sh. drilling
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7- 4-13	6,435	plug 5,770
Wehrman, J. K., No. 1 San Pedro, Los Angeles Co.	14- 5-14	1,501	suspended
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17- 2-14	508	cemented
Scientia Oil Co., No. 1 Inglewood, Los Angeles Co.	7- 2-14	rig	suspended
Kieps Oil Co., No. 1 Inglewood, Los Angeles Co.	17- 2-14	....	grade
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	suspended
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	6,140	sd. sh. drilling
Universal Consd., No. 2 Montebello Deep, Los Angeles Co.	5- 2-11	6,758	sd. sh. drilling
Universal Consd., No. 3 Montebello Deep, Los Angeles Co.	5- 2-11	6,789	sd. sh. drilling
Texas Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	3,208	sd. sh. drilling
Standard, No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	2,412	sd. sh. drilling
St. Helens, No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	mtl.	building rig
Midfield Oil Co., No. 1 Pico, Los Angeles Co.	19- 2-11	2,016	suspended
Rex Anglin Dev. Co., No. 1 Los Nietos, Los Angeles Co.	29- 2-11	150	suspended
Signal Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	4,908	suspended
Eldorado Pet., No. 1 Puente, Los Angeles Co.	30- 2-9	3,061	suspended
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,136	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	....	material
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	1,317	suspended
Alexander, W. L., No. 1 Sunland, Los Angeles Co.	7- 2-14	571	sd. sh. drilling
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,760	suspended
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	3,940	sd. sh. drilling
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	6,140	sd. sh. drilling
Recovery Oil Co., No. 1 Sunset Beach, Orange Co.	16- 5-11	3,400	suspended
Superior Oil Co., No. 1 Sunset Beach, Orange Co.	19- 5-11	4,703	sd. sh. drilling
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3-9	4,211	hd. sh. drilling
Brown, W. F., No. 1 Atwood, Orange Co.	26- 3-9	212	sd. drilling
Rubens, Sy., No. 1 Atwood, Orange Co.	19- 3-9	3,368	fish. liner
Bardeen Pet., No. 1 Coyote, Orange Co.	13- 3-10	3,201	prod. test
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2-8	2,645	fishing
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2-8	2,600	suspended
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino Co.	33- 2-8	1,295	form. test



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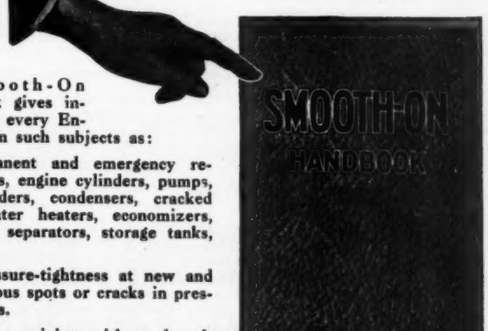

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Kansas Operators Keep Production Below Their Allowable; Good Wells in Western Areas

By JAMES McINTYRE

Kansas' crude oil production allocation for the month of March has been increased to 112,300 bbls. a day, and while this is pleasing to oil men in the state it is not altogether satisfactory, because Kansas oil men believe they should all along have been given more opportunity to satisfy the demands of crude oil refiners and other purchasers, whose commitments regularly exceeded the allowable production.

Much satisfaction was expressed at a meeting of oil men in Wichita on Saturday when the announcement was made that E. B. Swanson of the U. S. Bureau of Mines would meet with producers on Tuesday of this week in Wichita. A number of western Kansas oil producers wanted to show Mr. Swanson how Kansas producers have lost their market through the rapacity of some East Texas oil men in illegally producing oil which they sold at any price they could get, which, together with the fact that Kansas' allowable was always below the commitments of purchasers, drove oil buyers to Texas where they could fill their requirements at less cost to themselves. Kansas operators believe the Washington authorities are not fully aware of the difficulties Kansas operators are subjected to, and they welcome the opportunity of telling their troubles to a member of the Petroleum Administrative Board.

Production by Pools

Estimated daily average production of important pools in Kansas for the week ending February 24 and for the preceding week was as follows:

	Feb. 24	Feb. 17
Hollow	8,550	9,175
Ritz-Canton	13,220	13,125
Voshell	7,345	7,605
Sedgwick County	6,665	6,840
Nikkell	3,410	3,995
Ellsworth County	2,472	4,122
Barton County	529	841
Rice County	5,454	7,954
Reno County	2,543	3,082
Ellis County	186	322
Kingman County	No runs	54
Stafford County	954	734
Russell County	5,845	5,255
Greenwood County	12,400	12,400
Butler County	17,700	17,800
Other pools	22,622	21,686
Total	109,895	115,000

Reno County

McPherson Oil & Gas Co. and others' No. 1 Goering, SW cor. NE Section 1-23-4w, Reno County, deepened from 3,362 feet to 3,373 feet, was acidized and later flowed 15 bbls. per hour.

Sinclair Prairie Oil Co.'s No. 1 Stalcup, C SW NW Section 36-23-4w, was completed. It flowed 670 bbls. in 24 hours after an acid treatment in chat 3,332-74 feet.

Olson Drilling Co. and Shell Petroleum Corp. have started drilling No. 4 Roberts, C SW SW Section 25-23-4w.

Manning, Terry and others' No. 1 Dick, C SE SE SW Section 36-22-4w, Reno County, was deepened from 3,321 feet to 3,333 feet and recompleted. It produced 1,677 bbls. of oil and 3,000,000 feet of gas in 24 hours. The increased production was cutting 1 per cent or more.

Harvey County

In the Hollow Pool in Harvey County, Derby Oil Co.'s No. 1 Sperling, 330 feet south and 125 feet east of C Section 17-22-3w, was acidized in Hunton lime at 3,490 to 3,530 feet. The well produced 36 bbls. in 18 hours on the swab. It was reacidized and swabbed 4 bbls. per hour.

Sinclair Prairie Oil Co.'s No. 5 Ediger, SW SE SW Section 19-22-3w, swabbed 347 bbls. in 12½ hours and then began deepening. It produced from Hunton lime at 3,326-67 feet, which had been acidized. It was drilling at 3,425 feet on the last report.

Skelly Oil Co.'s No. 1 Martens, SE cor. Section 19-22-3w, deepened from 3,248 feet to Hunton lime at 3,446-63 feet and acidized, pumped 511 bbls. of oil and 20 bbls. of water in 24 hours. It was completed.

Barton County

Skelton's No. 1 Ott, C SE SE Section 16-19-14w, Barton County, a wildcat drilling deeper from 3,607 feet to granite topped at 3,669 feet and bottomed at 3,706 feet, was plugged back to 3,255 feet and acidized. It pumped 6 bbls. of oil and 300 bbls. of water daily for a week.

Stanolind Oil & Gas Co. had rig up for No. 2 Scheufler, C SE SE Section 9-20-11w, Barton County, and was spudding No. 1 Herder, C NE NE Section 17-20-11w.

McPherson County

In McPherson County, J. E. Mabee, Inc., and Shell Petroleum Corp.'s No. 5 Nikkell B, SW NE SE Section 33-21-3w, Nikkell Pool, swabbed 90 bbls. in three hours from Hunton lime at 3,466-92 feet and will be acidized.

Turman Oil Co.'s No. 2 Bridgens, NW SE SW Section 2-20-3w, found pay in chat at 3,015-23 feet and flowed 40 bbls. in eight hours. It was being made ready for potential test.

Marileen Oil & Gas Co. completed No. 4, Munn, SW SE SW Section 6-20-1w, deepened from 2,983 feet to Viola lime at 3,397-3,401 feet. It was acidized and later produced 295 bbls. in 24 hours on the pump.

Rice County

In Rice County, Continental Oil Co. had a rig up for No. 1 Foote, SW NW SE Section 7-20-9w, and had made a location for No. 1 Wickersham, NW SW SE Section 7-20-9w. Lario Oil & Gas Co. had a rig up for No. 1 Foote, SW cor. NE Section 7-20-9w. Lario Oil & Gas Co. and others' No. 1 McFarland, SE NE SW Section 7-20-9w, pumped 184 bbls. of oil in five hours on a potential test. A breakdown occurred and a new potential test will be taken. It is a Siliceous lime producer at 3,268-76 feet, which had been acidized.

Empire Oil & Refining Co.'s No. 2 Heckel, NW NE SW Section 18-20-9w, found Siliceous lime at 3,318-28 feet and pumped 300 bbls. in six and one-half hours. It had not been acidized. The company was drilling No. 3 Heckel, NE NW SW Section 18, at 1,115 feet and had rig up for No. 4, NE cor. SW Section 18. Gypsy Oil Co. was spudding No. 1 E. Malone, SW cor. SE Section 18-20-2w.

Eldorado Refining Co.'s No. 1 Wernet, SW cor. NE Section 12-20-6w, a wildcat in Rice County, found Wilcox sand at 3,671-78 feet and a hole full of water. It was drilling at 3,695 feet.

Atlantic Oil Producing Co.'s No. 1 Ott, C SW SW Section 11-19-10w, found Lansing lime at 2,930 feet and found oil at 3,015-20 feet, total depth. It made one flow and was shut in for tankage.

Lebow and the Texas Co.'s No. 2 Callis, NW SW SE Section 16-19-9w, pumped 6 bbls. per hour and was being prepared for a potential test. It is in Siliceous lime at 3,227-55 feet, which was acidized.

Courtney & Davis and Gypsy Oil Co. have rig up for No. 1 Christoper, SE SW SE Section 31-19-9w.

Gypsy Oil Co.'s No. 2 McGlynn, NE SW SW Section 32-19-9w, pumped 805 bbls. in 24 hours and was completed. It had been acidized in Siliceous lime at 3,254-78 feet.

In Other Counties

In Cowley County Sinclair Prairie Oil Co.'s No. 7 Dibbens, NW NE NE Section 22-32-4, pumped 123 bbls. of oil and 166 bbls. of water from Siliceous lime at 3,263-79 feet.

Wentz and Continental Oil Co. were drilling at 1,200 feet in No. 1 Kerns, SE cor. NE Section 6-34-2w, Sumner County.

Minnehoma Oil Co. was drilling at 400 feet in No. 4 Ferguson, NE NW SW Section 3-31-8, Elk County. Hunt and Croft were spudding No. 1 Keyser, SW cor. Section 17-30-9.

In Butler County, Bradley and Scanlon's No. 1-A McLaughlin, NE cor. Section 19-29-4, was dry and abandoned at 1,899 feet.

In Kingman County, Skelly Oil Co. completed No. 4 F. C. Miles, 440 feet south and 1,320 feet west of NE cor. Section 30-27-10w. It flowed 1,185 bbls. of oil in 24 hours from Lansing lime, 3,373-3,454 feet, which had been acidized.

In Sedgwick County, Skelly Oil Co. and Solar Oil Co. were rigging up No. 16 Wilson, C S half NE NE Section 1-26-1w.

United Petroleum Co. had 1,000 feet of fluid in the hole in No. 1-A Buck, 840 feet from S line and 1,000 feet from east line SW Section 6-26-1, from Kansas City lime 2,566-85 feet. It will be tested.

The Empire Oil & Refining Co. has three new operations started in the Eldorado Field in Butler County. No. 3 Cordey, NW cor. SE Section 11-26-4; No. 17 Gessman, NW NE NE Section 18-26-5, and No. 104 Koogler, SE NE SE Section 20-26-5. All of them are to be tests of formations above the big pay which made the Eldorado district one of the outstanding flush fields 15 years and more ago.

Roth & Faurot are not satisfied with results of the 3,935-foot test, No. 1 Yoder, C NW NW Section 15-24-5w, Reno County, and are drilling deeper and were reported at 3,954 feet. The test had been reported as dry and abandoned.

In Woodson County, Pure Oil Co.'s No. 14 Dye, NE NW SW Section 7-24-14, was completed. It is a 25-bbl. pumper in Mississippi lime at 1,712-23 feet which had been acidized.

Wildcat Operations in Kansas

Week Ending February 24

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Gypsy Oil Co.'s No. 1 Soderstrom, SE NE NW Sec. 21-17-12w	Coring Siliceous lime 3,521-25 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	P.B. to 3,255 ft.; acidized; pumping wtr.

BUTLER COUNTY

DeGenther et al's No. 1 Marnane, NW cor. Sec. 29-26-3	Cellar.
Yarnell et al's No. 1-A Speer, SE NE NE Sec. 31-33-6e	U.R. 6-in. csg.; T.D. 2,210 ft.
Van Meter et al's No. 1 Moore, NE cor. Sec. 5-25-4	Rig.

ELLIS COUNTY

Ashby et al's No. 1 Polycyn, NE SE Sec. 12-13-16w (O.W.D.D.)	T.D. 3,165 ft.; S.O. and wtr.

ELK COUNTY

Lerke et al's No. 1 Macon, C NE NE Sec. 5-31-10	T.D. 575 ft.

FINNEY COUNTY

National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 3-23-29w	T.D. 3,323 ft.; fishing.

GREENWOOD COUNTY

Ackman et al's No. 1-A Gilroy, SE SW NW Sec. 24-25-12	Spudded.

HARVEY COUNTY

Hartman et al's No. 1 Jones, C NW SW Sec. 19-25-1w	T.D. 2,940 ft.; P.B. to 2,912 ft.; pumping wtr.

KINGMAN COUNTY

Stanolind and Amerada's No. 1 Hilger, SE cor. NW Sec. 16-26-4w	Drlg. 2,240 ft.

McPHERSON COUNTY

Hess & Boersma's No. 1 Berg, C SE SE NE Sec. 15-20-3w	Chat 3,055-68 ft.; cleaning out.
Slick, Pryor & Lockhart's No. 1 Orcineal, SE SW SE Sec. 21-20-3w	Rig.
Foraker & Hutchins' No. 1 Smyser, SE NW Sec. 28-20-8w	Cellar.
Phillips Pet. Co.'s No. 1 Tinsley, C SW SE Sec. 5-2-1w	T.D. 2,956 ft.; R.U.S.T.
Phillips Pet. Co.'s No. 1 Boesker, SE NW Sec. 29-20-1w	Spudded.
Harris & Haun's No. 1 Rupp, SW cor. Sec. 12-21-2w	T.D. 3,032 ft.; fishing.
Wakefield & Hawkins' No. 1 Smith, SW SE Sec. 17-17-1w	Drlg. 1,975 ft.

PHILLIPS COUNTY

Ashby et al's No. 1 Close, C SE Sec. 24-5-15w	Drlg. 1,775 ft.

RENO COUNTY

Stanolind and Amerada's No. 1 Hilger, SE NW Sec. 16-26-4w	Drlg. 2,912 ft.

RICE COUNTY

Roth, Faurot et al's No. 1 Yoder, C NW NW	O.W.D.D.; drlg. 3,954 ft.
Slick, Pryor & Lockhart's No. 1 Schmidt, C NW NW Sec. 15-18-10w	Drlg. 2,725 ft.
El Dorado Ref. Co.'s No. 1 Wernet, SW NE Sec. 12-20-6w	Drlg. 3,695 ft.
Lario O. & G. Co. and Elwell's No. 1 Russell, NE SW Sec. 29-23-7w	T.D. 3,333 ft.; U.R. 8-in. csg.
Geo. Dickey et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	S.D. 1,210 ft.
Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w	T.D. 1,057 ft.
Smith & Ash et al's No. 1 Wilkins, SE cor. Sec. 13-17-10w	Rig.

ROOKS COUNTY

Ashby et al's No. 1 Stockton, C SW SW Sec. 15-8-19w	Moving in.
Phillips Pet. Co.'s No. 1 Dopits, C SW SW Sec. 31-8-17w	Drlg. 203 ft.

RUSSELL COUNTY

Western Exploration Co.'s No. 1 Andrea, SW cor. Sec. 30-15-12w	Drlg. 1,175 ft.
Tom Palmer's No. 1 Steinle, NW SW Sec. 22-13-14w	2,900 ft. oil in hole, 3,283-86 ft.

SEDGWICK COUNTY

D. Lauck and Shoreline Oil Co.'s No. 1 Jordan, NW SW SE Sec. 6-28-1w	Drlg. 1,915 ft.

STAFFORD COUNTY

Vickers Pet. Co. and Phillips Pet. Co.'s No. 1 Cravens, SW NE Sec. 15-25-11w	U.R. 8-in. csg.; T.D. 3,083 ft.

SUMNER COUNTY

Wentz and Continental Oil Co.'s No. 1 Kerns, SE cor. NE Sec. 6-34-1w	Drlg. 1,230 ft.

WOODSON COUNTY

Wolf Creek Oil Co.'s No. 1 Larber, NW cor. Sec. 35-25-14	Drlg. 810 ft.
Lewis Bros.' No. 1 Riggs, SW cor. Sec. 10-24-14	Set pipe at 765 ft.; S.D.

Central West Fields

(Continued from Page 52)

with an initial production of 80 bbls. was drilled in by Hystanton Oil & Gas Co., which was a wildcat and on the Arthur Reed farm, in Section 30, Jackson Township, Van Wert County, and the Ohio Oil Co. has started No. 1 on the Burton Sanderson farm, in the same section, and if it makes a good showing it may bring some activity there. The bringing in of a 30-bbl. producer recently by the Newton Oil Co., in No. 11 on the A. C. Montgomery farm, in the SE Section 29, Liberty Township, Hancock County, indicates that there is still plenty of territory of this kind yet to be explored.

CENTRAL OHIO

Fewer wells were completed in Central Ohio the past week than at any time for many weeks, there being five gas wells accounted for, but there are numerous wells that should be completed during the coming week, according to the depths that the wells are reported at. Three of the gas wells were completed in Stark County, the great gas-producing area of this active field. They are the East Ohio Gas Co.'s No. 1 Frank Goldsmith farm, Section 14, Plain Township, at a depth of 4,634 feet; No. 1 for the Brendel Producing Co., a good gas well on the William M. Miller farm, Section 4, same township, at a total depth of 4,539 feet; and the Cunningham Natural Gas Co.'s No. 1 Catherine Donnenwirth farm, Section 22, same township, at a total depth of 4,587 feet.

In Meigs County the Rutland Gas Co.'s No. 1 on the Florence Mutchler farm is a gas well at a shallow depth of 714 feet. In Huron County, J. E. Ringler abandoned his test on the W. O. Hartman farm, Section 27, Fitchfield Township, Huron County, and is now drilling No. 1 on the William and Nina Stewart farm, Section 24, same township.

Wells Nearing Pay Sands

In Stark County the next week or so should bring in a nice number of new wells. Ohio Fuel Gas Co.'s No. 1 Charles Horning farm, Section 10, Jackson Township, down below 4,100 feet, and No. 2 on the Bechtel farm, drilling below 3,700 feet, in Section 8, same township. East Ohio Gas Co., drilling below 3,700 feet in No. 1 on the Everett Bexler farm, Section 17, Green Township, Summitt County. Wiser Oil Co., drilling below 2,400 feet in No. 2 Dayton A. Doyle farm, Section 5, Springfield Township, same county.

East Ohio Gas Co., drilling below 4,000 feet in No. 2 on the Charles Pontius farm, Section 16, Plain Township, Stark County. Brendel Producing Co. drilling below 4,500 feet in No. 1 well on the Bell Terrs allotment, Section 10, same township. Same company, drilling below 3,000 feet on the Canton Suburban Realty Co.'s property in wells Nos. 2 and 3, in Section 20, Plain Township, Stark County.

Brendel Producing Co. abandoned its location for a test on the Charles Warstler farm, Section 14, and moving in a rig on No. 2 location. White and others are drilling below 4,300 feet in a test on the K. E. Kiesling farm, Section 23, and are now reported shut down.

Robinson and others are drilling No. 4 on the Harvey and George Mellinger farm, Section 9, Plain Township, Wayne County. Lacknett and others are drilling a test on the William Adams farm, Lot 3, Monroe Township, Knox County. Preston Oil Co. made a location for No. 3-1,542 on the A. Van Winkle farm, Section 14, Perry Township, Coshocton County, and also for No. 4-1,541 on the F. H. Donaker farm, Lots 16 and 17, same township.

In Tuscarawas County, the Lynch Oil Co. abandoned its proposed test on the Robert McKeen farm for No. 3 well, in Lots 21-22, Oxford Township.

In Plain Township, Stark County, East Ohio Gas Co. is drilling a test on the John C. Mayer farm, Section 16. Pfeiffer and others have a rig in for No. 1 on the A. V. Pontius farm, Section 16. Brendel Producing Co. has a rig in for No. 2 on the Charles Warsler farm, Section 14, and same company is drilling No. 2 on the Isaac and Elmer Markley farm, Section 9, same township. East Ohio Gas Co. has a rig in for a test on the W. H. Miller farm, Section 13, Jackson Township, same county.

George Washmuth and others are drilling No. 2 on the W. C. and Othello Stephens farm, Section 25, Somerset Township, Belmont County, C. C. Wharton is drilling a test on the R. E. Frame and others' farm, Section 1, Willis Township, Guernsey County. Ohio Fuel Gas Co. is drilling No. 2 on the John Johnson farm, Section 20, same township. Muhlback & Son are drilling a test on the Mary C. Jenkins and others' farm, Section 11, Jefferson Township, also in Guernsey County. Jewell & Muhlback are drilling a test on the Jessie Milhone farm, Section 5, Monroe Township, same county, and Jewell & Hammond have a rig in for a test on the Frank L. Thompson farm, Section 13, Richland Township, same county. East Ohio Gas Co. has a rig up for a test on the Gadd-Little farm, Section 1, Wheeling Township, same county, and J. T. Roach has a rig in for No. 5 on the Jennie Rose farm, Section 5, same township.

KENTUCKY

Less work is being done in the Kentucky fields than during any winter month for a number of years, there being but two wells during the present month, and both are in Ohio County, being Fred L. Weir and others' No. 15 on the Norris heirs farm, which produced an initial of 5 bbls. from the Jett sand, and the other being Vickers and others' No. 1 on the G. W. Jeffers farm, which was a dry hole at 450 feet. There is plenty of undeveloped territory over the State of Kentucky as well as Tennessee, and the price of crude is better than for some time back.

T. M. Bane, oil contractor, and Miss Margaret Hobson, of Bowling Green, have started development for oil on the Bamberry Higdon farm in Grayson County, Kentucky. The Higdon farm is located about 1½ miles east of Grayson Springs, which was owned in its palmiest days by Captains William and C. J. Vanmeter of Bowling Green. These Vanmeters were early soldiers and settlers of Warren County and while operating a steamboat line to Evansville and New Orleans acquired large mineral holdings in Edmonson and Grayson Counties.

Miss Hobson is a great granddaughter of Captain Vanmeter, and it is hoped her projects will carry in proportion as great a measure of success as did her grandparents in their early undertakings in these sections.

There were no completions reported from Illinois or Indiana fields.

TO DRILL IN DELAWARE

TOLEDO, Ohio, Feb. 24.—C. L. Williams, engineer of the Cleveland Petroleum Corp., Cleveland, Ohio, writes as follows:

"This company is drilling a test for oil or gas in the state of Delaware, in Sussex County, on a 1,000-acre tract of land known as the Delaware Orchard, this well to be drilled to the Granite or until oil or gas is found in paying quantities. The well was spudded February 8, with 13-inch standard tools. The drilling contractor is Walter Huey of Mannington, W. Va. The well is being drilled on a block of 35,000 acres of leases taken on 10-year term, and it is hoped to find oil or gas in paying quantities in the Miocene, or upper or lower Cretaceous series. A complete standard steel derrick, and all casing from 13-inch to 6⅝-inch is on the ground, and the well will be drilled as rapidly as careful analysis of the sediments encountered will permit.

GEORGE WILLIAMS DIES

WINDSOR, Ontario, Feb. 24.—George Williams, retired oil driller, died here on February 19 as a result of a heart attack. Mr. Williams was 67 years of age, and had worked in South American and Australian fields, as well as in the United States and Canada.

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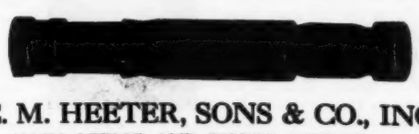

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Drilling Resumed in Eunice Area, New Mexico; Good Producer in Cut Bank Field, Montana

By TOLBERT R INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Feb. 26.—Drilling has been resumed in the Eunice area, New Mexico, first time since May, 1933, when the Atlantic Oil Producing Co. completed a 1,000-bbl. well. Empire Gas & Fuel Co. has made a location in the Jal Pool, increasing active operations to eight. Two wells are being completed in the Jal Pool. The Texas Co.'s No. 4-A State, in the Lea Pool, has a hole full of oil. Western Eddy County wildcat is ready to test oil shows in the black lime. One small gas well was completed in the Artesia area, and three big gas wells on the Ute structure in San Juan County are reported to be showing oil.

Drilling in Colorado was practically at a standstill this week. The Stanolind Oil & Gas Co. released a location for three wells to be drilled in the Iles Pool. A suit has been filed in the Federal district court at Denver which may test the legality of the oil marketing code.

There were no completions in Wyoming. One location was made on the Frannie Dome by the Stanolind Oil & Gas Co.

In Montana, the Texas Co.'s No. 1 Purdy, in the Cut Bank Field, has 2,200 feet of oil in the hole and promises to make a good producer.

The Ramsey Petroleum Co.'s test in southern Utah is making fast progress after starting a new hole.

NEW MEXICO

Lea County

A location in the Eunice area, where no drilling has taken place since last spring, was released this week in the Atlantic Oil Producing Co.'s No. 2-B State, C NE SE Section 8-21-36. It is an offset on the east to the same company's No. 1-B State which was completed at 3,904 feet in May, 1933, for 1,008 bbls. per day initial production.

Active operations in the Jal area were increased to eight this week with the release of a location by the Empire Gas & Fuel Co. for its No. 1-B Lindley, C SE SW Section 13-25-36. This is an offset on the north to the Southern Petroleum Exploration Co.'s No. 1 Ascarate, which was completed last month for 5,000 bbls.

Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, which shut off a big flow of gas to go deeper for oil, has bailed down water after deepening to 3,373 feet and cementing the 4¾-inch. It is spraying oil and mud and making approximately 4,000,000 feet of gas per day. The Humble Oil & Refining Co.'s No. 4-A Lindley, C NW NW Section 24-25-36, a west offset to the Southern Petroleum Exploration Co.'s No. 1 Ascarate, is bottomed at 3,343 feet in sandy lime. A drill stem test at 3,180-3,343 feet showed no gas. The oil rose 500 feet in one hour. It will run tubing and test. The Texas Co.'s No. 2 Moberly, C NW SE Section 8-26-37, is waiting after cementing the 9⅝-inch at 2,790 feet with 500 sacks. Total depth is 2,800 feet in anhydrite. Same company's No. 1-B Shepard, NW cor. SW Section 5-26-37, an old well drilling deeper, is running tubing to test at 3,355 feet. At last reports it was flowing 170 bbls. of oil and around 100 bbls. of water. The Barnsdall Oil Corp.'s No. 1 Forrest, NE NW SW Section 24-25-36, is drilling in water sand at 335 feet. The Continental Oil Co.'s No. A-24-1 Ascarate, is waiting after cementing the 12½-inch on bottom at 485 feet with 200 sacks. The Stanolind Oil & Gas Co.'s No. 29-B Farnsworth, C SW SW Section 7-26-37, is shut down for orders after digging cellar and pits.

In the Hobbs Pool, Noble Brothers' No. 1 Shell-State, SE cor. NW Section 24-18-37, cemented the 12½-inch at 215 feet with 150 sacks and is drilling at 1,257 feet in the red beds.

In the Lea area, the Texas Co.'s No. 4-A State, C Lot 7, Section 2-21-33, which is located between its No. 3-A State and Cranfill & Reynolds' No. 4 State, is a near completion. Total depth is 3,785 feet. At 3,733-37 feet oil rose 1,100 feet in the hole and at 3,783-84 feet it rose at the rate of 500 feet per hour for six hours. With the oil was approximately 1 bbl. per hour of sulphur water. Same company's No. 1 Lea, SW cor. NW Section 14-20-34, is fishing for bailer at 410 feet, total depth, and its No. 2-B Lynch, C SE SW Section 27-20-34, is drilling at 2,780 feet in salt.

In the Cooper area, the Gypsy Oil Co.'s No. 1 La Munyon, C NE NE Section 28-23-37, is drilling at 165 feet in sand.

Eddy County

Ralph Spearow and others' No. 1 McClelland, SW NW NE Section 22-22-23, in the Indian Creek district in western Eddy County, a deep test of the black limes in that area, is preparing to test the several shows of oil and gas. Total depth is 4,865 feet and plug is being drilled after cementing the 8¼-inch at 2,207 feet. The Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, 12 miles south of the McClelland well, is bottomed at 2,812 feet in gray lime and preparing to run the 8¼-inch.

In the Artesia area, the Pecos Valley Gas Co.'s No. 2 Wilson-State, SE NE NE Section 5-19-28, was completed at 715 feet for 175,000 feet of gas per day. The top of the gas horizon was at 693 feet. Flynn, Welch & Yates' No. 69 State, NW SE SE Section 10-19-28, is bottomed at 615 feet in anhydrite and waiting for 8¼-inch pipe. The 10-inch was set at 252 feet. R. D. Compton's No. 6 Brainard, SE cor. Section 5-18-27, is drilling at 160 feet in gypsum. The Pecos Valley Gas Co.'s No. 2 Mesa-State, NE NW NW Section 4-19-28, had water at 228-37 feet, set the 8¼-inch at 340 feet and is drilling at 400 feet in red beds and gypsum. Van Welch, Jr. and others' No. 2 State, SW NW NW Section 22-17-28, spudded February 12 and is drilling at 25 feet in calcite.

Leonard and Barnsdall's No. 1 State, SW cor. Section 21-17-29, Jackson area, is drilling at 2,572 feet in white lime. The Grayburg Oil Co.'s No. 5 Burch, C SW NE Section 19-17-30, Maljamar area, is shut down in anhydrite at 1,025 feet for drilling line.

Stovall & Marshall's No. 1 Mock, C SE SE Section 29-25-27, Black River, district, southern Eddy County, plugged back from 2,377 feet to 2,369 feet where it pumped 10 bbls. of oil and 6 bbls. of water in two days and is shut down for orders.

Santa Fe County

Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is drilling at 1,340 feet in hard sand with show of gas.

San Juan County

Several reports have been received from northwestern New Mexico to the effect that three gas wells on the Ute structure in northern San Juan County are beginning to show considerable oil and that the Stanolind Oil & Gas Co. is preparing to do some additional exploration work in that area in the hope of developing an oil pool. The reports cannot be verified here as the Stanolind company has no office in Colorado and its New Mexico operations are handled from Tulsa. The Midwest Refining Co., predecessor of the Stanolind company, drilled two wells and the Producers & Refiners Corp. one well on the Ute structure in 1921. The Midwest's No. 1, SW Section 36-32-14, had 12,000,000 feet of gas at 2,480 feet, and its No. 2, also in the same section, had 37,000,000 feet per day at 2,360 feet. The Producers & Refiners' No. 1, NW Section 1-31-14, gauged 72,000,000 feet initial at 2,380 feet. These wells are on Indian leases and as there was no market for the gas they were shut in. In 1930, a line was built to Durango and the wells were put on production. Subsequently they were connected up with the Southern Union Gas Co.'s pipe line which supplies Farmington, Santa Fe and Albuquerque. These lines have been pulling on the three wells for several years. The surface formation on this structure is Mesa Verde and the gas comes from the Dakota horizon. The Dakota is the source of oil production on the Hogback, Rattlesnake and Table Mesa structures in that county and it is logical to expect that oil would show in that horizon on the Ute Dome. Further confirmation of that probability is found in some wells drilled on the north flank on the Colorado side which had good shows of oil.

Oil Proration

C. J. Dexter, chairman of the New Mexico production committee under the NRA code, has called a meeting of producers in the Jal, Eunice and Lea areas to be held in Artesia on February 23 and 24 to work out plans for future drilling and production in those areas. Dr. E. H. Wells, state geologist and chairman of the allocation committee, and Frank Vesley, state land commissioner, also have been invited to attend. The meeting was called as a result of increased drilling activity in those areas and the prospect that the Jal Pool will become a major oil pool in view of re-

Decided Revival of Drilling Activity Is Reported in the Turner Valley Field

BY VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Feb. 24.—A marked feature of Canadian oil operations in recent months has been the decided revival in drilling activity in the Turner Valley Field. Recent operations, mainly in the south end, have added several important wet gas producers, and the activity promises a repetition of the intensive drilling which marked the development of the famous "Home" section in Section 20-19-2w5.

W. Fay Becker Syndicate's No. 2 Anaconda, LSD 15, Section 28-18-2w5, finished in the Madison at 5,550 feet, is testing production and reported making better than 400 bbls. a day. This production will be somewhat reduced when the conservation regulations are applied and the gas flow prorated. Sterling Royalties' No. 1, in the adjacent section, which started at 350 bbls., is reported down to 250 bbls. with the conservation regulations in effect, so that No. 2 Anaconda ought to be good for around 280 to 300 bbls. settled production.

Mar Jon Oil Co.'s No. 2 Kindersley, LSD 10, same section, is being brought into production. Pressure builds up to around 1,660 pounds over night. The increasing gas flow shows a very heavy naphtha content. Hole bottoms at 5,445 feet.

Several wells in Section 28-18-2w5 are getting fairly close to the lime. Pacalta Oils' No. 1, LSD 7, is farthest advanced, making new hole below the Home sand at 4,485 feet after cementing and sidetracking a lost bit. It got the Home sand marker at 4,450 feet. Spooner Oils' No. 5 Anaconda is drilling below 3,900 feet and close to the coal seam marker. This test is in LSD 1, the southeast corner. Further north, Publix Oil & Gas Co.'s No. 1, LSD 8, is making new hole from 1,300 feet. Roy Widney is handling the drilling, and cable tools will be used, changing to rotary around 2,000 feet. Sunburst-Mid Royal's No. 1, LSD 16, is shut down at 1,630 feet.

A quarter mile west of Pacalta Oils' No. 1, British Dominion Oil & Development Corp.'s No. 4, LSD 6, Section 28, is rigging up cable outfit to spud in early in March. Director Royalties' No. 1, LSD 16, is making hole below 395 feet. Century Royalties' No. 1, LSD 14, is drilling below 325 feet. West of this well, Turner Valley Royalties' No. 1 Bell-Brown, N half LSD 13, is doing preliminary work on location.

In the southern part of Section 28, Richfield Royalties' No. 1, LSD 5, is finishing water well. Standard equipment used for Becker Syndicate's No. 2 Anaconda is being dismantled for removal to Richfield's No. 1 location. Becker Syndicate's No. 2 on the Morris-Goodfellow acreage in LSD 3, is digging cellar.

Far South Tests

South of Section 28, approximately a mile south of the nearest producing well, Highwood-Sarcee Oils' No. 1, LSD 16, Section 21-18-2w5, is testing a possible extension to the southeast. It has drilled through 10 feet of the Home sand between 4,675 and 4,685 feet and is below

(Continued on Next Page)

cent developments in which wells with a capacity of 5,000 bbls. per day have been drilled and the necessity of making new allocations. New Mexico's allowable was placed at 41,200 bbls. daily for January, February and March. This includes the Hobbs Pool, which has an allowable of 33,400 bbls. daily. That leaves only 7,800 bbls. daily for the Lea, Eunice, Cooper and Jal areas and for the several pools in Eddy County and northwestern New Mexico. Following the call for this meeting, Secretary Ickes has increased the allowable for New Mexico, beginning March 1, to 44,300 bbls. daily.

COLORADO

With the completion in the past two weeks of two wells on the Iles Dome and one on the Craig Dome in Moffat County, drilling operations were practically at a standstill in Colorado this week. The scattered wildcats, of which approximately 40 in the State are listed, are all shut down. Some of them have been idle more than a year, due to lack of funds. One new operation was reported, this being the Stanolind Oil & Gas Co.'s No. 6 Parkinson, Lot 37, SW Section 23-4n-92, Iles Dome, which is building rig. This is an offset to the Texas Co.'s No. 5 Parkinson, a recent completion. The Stanolind has two more offsets to be drilled on this structure and the Texas Co. is expected to start another well shortly.

WYOMING

Carbon County

The Ohio Oil Co.'s No. 1 A. J. Hazlett, NE NW Section 34-23-79, Allen Lake, a big gas well in the Sundance which is being deepened to the Tensleep as a test for oil, is coring at 3,705 feet in the red beds. The formation has hardened considerably in the last 25 feet and is showing quite a little lime, indicating that it is drawing near to the top of the objective.

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, the completion of which is being eagerly awaited on account of the excellent oil showings encountered, again is delayed. While running the 6¼-inch, the string parted five joints from the top. Total depth is 4,050 feet.

Converse County

Wyoming Southern Oil Co. and S. H. Keoughan's No. 1 Government, C Section 27-32-69, Shawnee district, set the 10-inch at 108 feet and is waiting.

Natrona County

Midway Oil Corp.'s No. 1 Boyer, SW NE NE Section 23-35-79, Midway Dome, is drilling at 4,875 feet and looking for the second Wall Creek at around 5,100 feet.

Park County

Stanolind Oil & Gas Co. has made a location on the Frannie Dome for its No. 1 Rosenberg, NE Section 26-58-98. It is digging pits. The location is an offset to a producer.

MONTANA

Glacier County

The Texas Co. has a near completion in its No. 1 Purdy, SE cor. SW Section 35-35-6w, which is bailing after setting the 7-inch at 2,839 feet and drilling to 2,880 feet. It has 2,200 feet of oil in the hole and will make a good producer. Same company has made a location and is digging cellar for its No. 1 fee, Lot 7, Section 15-35-6w. Texas Co.'s No. 1 Yunck, NW SW Section 14-35-6w, set the 7-inch at 2,855 feet, total depth, and is waiting, and its No. 2 Purdy, C NE SW Section 35-35-6w, is rigging up. Same company's No. 1 Haggerty, SE cor. Section 9-34-6w, is installing pumping equipment and its No. 1 Antrim, C Lot 4, Section 27-35-6w, is waiting on water well.

WASHINGTON

Coast Oil Co.'s No. 1 Coquille, near town of Coquille in Coos County, which a year ago was reported showing for a 3-bbl. well at 1,450 feet, but shut down since then, is reported to have had equipment sold at a sheriff's sale to satisfy a labor lien.

UTAH

Ramsey Petroleum Co.'s No. 1 Weightman, SW NE SW Section 18-26-7e, Last Chance Dome, Emery County, set the 15½-inch at 92 feet and is drilling at 570 feet.

Canadian Fields

(Continued from Preceding Page)

4,755 feet carrying 15⅜-inch casing, to be landed in the Dalhousie sand. Further east, Hoffar Lundy Syndicate's No. 1, Section 22-18-2w5, suspended drilling at 4,300 feet, the log indicating the test was too far east to get the lime at a reasonable depth. Highwood-Sarcee's No. 1 is logging satisfactorily. Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, the farthest south test, has been held up by caving at around 2,750 feet.

East, north and west of Section 28, a number of tests are drilling, resuming or starting. Probably the most important of these is Northwest Co.'s No. 1 Calgary & Edmonton-Longview, in LSD 5, Section 27-18-2w5. This is immediately east of Publix Oil & Gas Co.'s No. 1 in Section 28 and is below 4,613 feet after getting the Home sand at 4,575 feet. The Home marker checks the formation on the east side. Some three-quarters of a mile north of Northwest Co.'s No. 1, Noland-Hungerford Royalties' No. 1 Rand, LSD 5, Section 34-18-2w5, is resuming at 280 feet; while Livingston Syndicate's No. 1, same LSD, a quarter mile north, is standing at 2,865 feet. With these also on structure, indications point to an important extension to the east.

West of Section 28, Excelsior Royalties' No. 1 has been spotted in LSD 16, Section 29-18-2w5. Immediately north, Connaught Royalties' No. 1, LSD 16, Section 32-18-2w5, is arranging to start work. Due north, Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, is drilling below 3,367 feet. This is a quarter mile west of Hylo Oils' No. 1 producer, and a farther test of the west flank.

In the Central Turner Valley area, Okalta Oils' No. 4, LSD 8, Section 1-20-3w5, is sidetracking around 2,370 feet. South of this test, Dome Oils' No. 2, LSD 16, Section 36-19-3w5, which got a small crude naphtha production in the deep lime, is reported abandoning that horizon and will test the light crude horizons above the lime.

Royalite Increases Control

An important factor in the recent Turner Valley development is the program of company mergers and purchases of deep lime production under which Royalite Oil Co., the chief producing subsidiary of Imperial Oil, Ltd. is safeguarding its Turner Valley properties. Royalite company last year increased its capitalization from 500,000 to 1,000,000 no-par shares. The new stock is being used in the purchase of other companies, or of deep lime production. Companies merged include the Southern Lowery and the Mayland Oil Co., while Royalite has also acquired the deep lime production of the McDougall-Segur companies, Sterling Pacific Oil Co., Alberta Pacific Consolidated Oils, Ltd., Calmont Oils and others. Wells and acreage involved in these deals represented offsets or potential offsets to producers in which the Royalite company was interested.

As a result, the Royalite company will be able to limit production to wells which can be operated for the largest proportionate return and at the least expense. Offset wells can be eliminated, and a good deal of offset drilling saved. The gas flow can be kept at a figure approximating the potential consumption, and the naphtha production spread over a longer period and marketed to better advantage. Imperial Oil, Ltd., through Royalite and other subsidiary and associate companies, controls a large majority of the Turner Valley producers and is reported to be handling around 120,000,000 feet a day through its absorption and scrubbing plants in the field. Of the residual dry gas, from 30,000,000 to around 100,000,000 feet a day, depending on weather conditions, is scrubbed and delivered to the Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary for distribution. An additional 5,000,000 feet a day is scrubbed and pumped back into the old Bow Island Field, the original source of gas for Calgary and in which upwards of a year's gas supply for the Canadian Western system has been stored since repressuring operations commenced.

Production in the Turner Valley has witnessed a gradual evolution. When the first wet gas in the deep lime was struck in 1924, the naphtha was extracted by putting the gas through baffle separators, the residual gas, for lack of a market, being burned at a distance from the wells. Later, Royalite Oil Co. built a scrubbing plant to extract the sulphur content from the gas, and the scrubbed gas was marketed to the Canadian Western company, with which the Royalite company has exclusive contract. Last spring the Royalite company completed an absorption plant, primarily to treat the gas after it has gone through the field separators. In this absorption process a final and complete naphtha recovery is secured, in some cases larger than the initial recovery by separator. It has also been found advantageous to handle gas direct from some of the older wells, where reduced pressure made the separator process unsatisfactory. After passing through the absorption plant, the gas, sufficient for Canadian Western and repressuring requirements, is run through the scrubbing plant.

Under Alberta government regulations the gas flow of deep lime producers is restricted to 40 per cent of the open flow. The maximum gas production for the entire field must be held as nearly as possible to 240,000,000 feet a day. There is still, however, a large amount of waste gas burned in the field.

Tests in the Foothills

In the Moose Mountain area west of Calgary, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is below 3,823 feet, drilling, reaming and carrying pipe down behind the tools. It is in a very hard formation.

On the Pekisko Hills structure south of Turner Valley, Pekisko Hills Co.'s No. 1, LSD 6, Section 6-17-2w5, is resuming after setting surface pipe at 60 feet.

Border Fields

On the Alberta end of the International Reserve Dome, east of Coutts, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, is idle after drilling into sulphur water at 3,080 feet. The well got the Ellis at 3,075 feet with a strong flow of gas and some oil and was being deepened for larger production. No decision has yet been reached as to further work.

In the Keho Lake area, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, brought into production last year from a stray sand in the Benton at 3,770 feet, is pumping around 12 bbls. a week of a good grade of crude. It is reported a further test may be drilled this year.

Comrey Wildcat

In southeastern Alberta, south of Medicine Hat, Royalty Holdings' No. 1, Section 9-1-5w4, on the Comrey structure, is to start work in March. Location was made last year, the company being organized by D. A. MacDonald of Vancouver and the acreage owned by Imperial Oil, Ltd.

Saskatchewan Operations

Ardill Oil Co., Ltd., has been organized at Ardill, Saskatchewan, to test a structure in that province a short distance south of Moose Jaw. Officers are: President, John D. Bower; vice president, F. L. Irvine; secretary, L. M. Laking. All are residents of Ardill. The company has purchased a standard drilling outfit in southern Alberta and is reported moving the equipment to location.

Altoba Gas Exploration Co. has been registered in Alberta with E. J. A. Smart of Edmonton as attorney. It is drilling in western Saskatchewan close to the Alberta boundary on the eastern end of the Ribstone-Blackfoot structure.

Ontario Drilling

In the Dawn Field, Lambton, Ontario, Union Gas Co.'s No. 71, NW E half Lot 23, Concession 2, Dawn Township, is below 1,835 feet with a little gas. Union's No. 72, SE Lot 25, Concession 13, has finished a fishing job at 710 feet and is below 1,000 feet.

In Moore Township, Lambton County, S. S. Reesman Syndicate's No. 1 Kerr farm, Lot 21, Concession 1, Moore Township, is below 771 feet.

In Dover Township, Kent County, Ajax Oil & Gas Co.'s No. 8 Antaya farm, is below 750 feet.

In Norfolk County, David Laur is drilling in the gas area south of Tillsonburg for E. P. Rowe and associates of Toronto.

Brooke Shallow Field

In Brooke Township, Lambton County, Leo Wilson Syndicate's No. 3, Bowie farm, Lot 26, Concession 12, is reported to have finished a dry hole. No. 1, northwest of No. 3, was on the north side of the road, and reported good for 15 bbls. a day. No. 2, also on the north side and about 3 miles east of No. 1, had a reported flush production of 20 bbls. a day. No. 3 was on the south side of the road and about midway between the two producers. No. 2, close to the Brooke-Metcalfe Township line, is reported to have shown 20 bbls. initial production. Instead of shooting the shallow limestone was given acid treatment which resulted in a substantial increase in the yield. About seven drilling outfits are reported at work in various parts of the field, with more than 4,000 acres under lease. About 1,000 acres are held by United States interests.

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Fair Completion in Lost Run, W. Va.; Wells Show Good Staying Power

BY STAFF CORRESPONDENT

PITTSBURGH, Pa., Feb. 24.—Another fair well was completed in Lost Run Pool, Clay district, Ritchie County, West Virginia, but it is in the center of the pool and does not extend the pool. On the S. E. Satterfield farm, Clinton Louden and Robert Elder and others drilled in their No. 5 in the Injun sand at a depth of 1,835 feet and it is showing for 100 bbls. a day. Most of the wells have shown remarkable staying power although the Injun sand streak is narrowly confined.

No other wells are drilling in this pool at the present time but it is expected there will be considerable activity shortly. On the Z. Dougherty and Mary Toothman farm, Richards Farm Oil Co. has completed a rig. Robert E. Elder has made a location on the J. W. Leonard heirs farm. Ralph Roberts and others have rigged up for No. 3 on the Sada McGinnis farm and east of their No. 2. This, if a producer, will show a turn in the Injun sand streak to the northeast. Frank Finley and others have a rig standing for No. 5 on the Biddie Fox farm.

Eleven wells were completed in the lower eastern fields during the week. Seven were gas wells and four were producers with an initial production of 224 bbls. There were also two dry holes. Pennsylvania Grade crude is still in demand and it exceeds production by a large margin which was recognized during the week by the Planning and Coordination Committee's ruling permitting certain withdrawals from storage. It is expected that production totals will increase with the present plans of the major interests for reconditioning certain pools. Some work has already been done.

SOUTHEAST OHIO

In Southeast Ohio, the test of Preston Oil Co. on its A. J. Beatty lease in Section 1, Jackson Township, Knox County, was completed in the Clinton sand at a depth of 3,245 feet. It is a fair well, producing 90 bbls. the first day after shot. Its first test on this farm also was a good producer.

The remainder of Southeast Ohio was inactive, only one other well was completed and it was in the shallow sands of Medina County. In Chatham Township, Tract 13, Lot 2 and 3, Oko Oil & Gas Co. completed No. 61 on the Henry Essig farm in the Berea grit at 388 feet and it produced 4 bbls. the first day after shot.

WEST VIRGINIA

One additional producer was completed in West Virginia. On Dutchman Run in Murphy district, Ritchie County, South Penn Oil Co. completed No. 13 on the Haught Lambert farm in the Salt sand at 1,870 feet and it is producing about 30 bbls. a day.

As part of the reconditioning work, Heck Oil Co. cleaned out and shot its second test on the H. W. Allen lease of 60 acres on Sugar Camp Run in Reedy district, Roane County. Production increased from 2 to 12 bbls. a day.

In Mannington district, Marion County, Delmar Oil Co. shot and cleaned out its No. 4 on the J. A. Duncan farm and increased production from 3 to 15 bbls. a week. In Sardis district, Harrison County, South Penn Oil Co. increased its production on the A. H. Hildreth farm from 2 to 14 bbls. a week by similar means.

Gas Wells

There were no large gas wells in West Virginia during the week. In Calhoun County, four wells were completed. In Lee district, Littleton Oil & Gas Co. completed a test on the J. S. Wade farm in the Injun sand at 2,106 feet and it will make a light gas well. In Sherman district, F. F. McIntosh completed No. 3 on the O. S. Bennett farm in the Injun sand at 1,952 feet and it is also a light gas well. In Sheridan district, Cain and Rothwell completed No. 3 on the Lee Roy Jones farm at 2,017 feet in the Injun sand and it will make a light gas well. In Center district, Starcher and Richards have a light gas well in their test on the Docie Welch farm. It was completed in the Injun sand at 2,100 feet.

In Kanawha County, on Morris Creek in Big Sandy district, Columbian Carbon Co. completed a second test on the King Land Co. lease in the Big Injun sand and it is showing for about 200,000 feet of gas a day. The sand is being treated with about 100 gallons of acid for a test. It is about 2,600 feet north of United Fuel Gas Co.'s well on the Prince Land Co. lease.

In Wetzel County, Wiser Oil Co. completed a test on the Mary E. Yoho farm in Proctor district at 2,289 feet, the Berea sand. It will make a gas well.

In Roane County, on Buffalo Creek in Curtis district, Henderson Oil Co. drilled a second test on the F. L. Ball farm through the Salt sand and it was dry in all formations. In Wirt County, Peter Selman drilled No. 7 on the J. C. Hale farm through the Cow Run sand and found it dry.

Drilling in West Virginia

In Ritchie County Beech Run Oil Co. is building a rig on the Z. E. Neely farm in Grant district. In this district, Doctor Conley has rigged up on the T. E. and A. F. Dye farm. Petroleum Producing Co. is drilling at 350 feet on the Jennie Carroll farm. In Clay district, away from the Lost Run Pool, Carnegie Natural Gas Co. is drilling at 1,100 feet in No. 3 on the M. H. Jones farm and in Union district has rigged up and shut down on the A. H. Tate farm. In Murphy district, R. C. Jackson and others are about due in the Injun sand on the D. F. Givens farm. Clem Morris has reached 1,500 feet on the F. B. Strother farm. King Knob Oil Co. started drilling a second test on the Emma V. Weinrick farm.

In Pleasants County Dye Farm Oil Co. has a rig standing on the Lavina Dye farm in Jefferson district. In McKim district, on the waters of French Creek, Dinsmoor & Co. have started drilling on the Meredith Nichols farm. In this district, Ross Bonner and others are down 1,400 feet on the Daniel Locke farm.

In Gilmer County, Hope Construction & Refining Co. is ready to start drilling No. 7,510 on the Emma Ryan farm in Center district. In DeKalb district, on Bull Fork of Tanner Creek, A. E. Ellis and others have a rig completed for No. 4 on the Ware and Webster lease. On Jobes Run, Laurel Oil Co. has a rig standing on the Floyd W. Beall farm. Starcher and Richards have a rig standing on the O. C. McQuain heirs farm. C. A. Jarvis and others are building a rig on the Susan A. Gainer farm and are drilling at 1,875 feet on the John H. Houghton farm.

In Calhoun County, Ohio Valley Gas Co. has reached 1,825 feet on the D. C. Bailey farm in Washington district. In Lee district, Simmons Gas Co. is drilling at 1,970 feet on the Sylvester Brannon farm. F. F. McIntosh has reached 1,685 feet in No. 4 on the Mary E. Hays farm and in Sherman district has made an additional location for No. 5 on the O. S. Bennett farm. In Sheridan district, Bickerstaff and others have started drilling No. 3 on the William Cooper farm.

SOUTHWEST PENNSYLVANIA

In Amwell Township, Washington County, Carnegie Natural Gas Co. drilled its test on the John C. Murphy farm through the Fifth sand to a total depth of 3,152 feet. This sand was dry. Plugging back to the Gordon Stray sand, a shot was placed and it will make a small gas well. The formation was from 2.885 to 2,905 feet with gas showing at 2,891-93 feet.

In this township the same company has its test on the Fred Baumberger farm, which is being drilled deeper, at 3,766 feet. The Fifty-Foot sand was at 2,736 feet with gas and water showing at 2,749-54 feet. Its test on the C. W. Dunn farm is drilling at 2,690 feet. In the test of the Manufacturers Light & Heat Co. on the C. A. Miles farm, the casing filled up 1,800 feet in 24 hours with oil from the Fifth sand between 2,961-66 feet. The total depth was 2,974 feet. Wise Oil & Gas Co. is drilling at 2,600 feet on the Eliza Roach farm. Raymond Orrill and others are down 1,320 feet in No. 3 on the G. L. Walker farm.

In East Finley Township, Washington County, Natural Gas Co. of West Virginia has reached 2,045 feet in No. 3 on the Sarah Carter farm. The Big Injun sand was struck at 1,761 feet with about 900,000 feet of gas a day showing at 1,767 feet. It is being drilled to the Gordon Stray sand. C. P. Levier and others are ready with a rig on the James Marshall farm. Myers Hoskinson and others are rigging up for a second well on the Harry Clutter farm. Natural Gas Co. of West Virginia is drilling at 1,270 feet on the Harley Ealy farm. The Pittsburgh Coal was at 848 feet. Myers Hoskinson and others are building a rig on the Earl Montgomery farm.

In South Franklin Township, Manufacturers Light & Heat Co. has reached 460 feet in a second well on the Howard Clarke farm. The Pittsburgh Coal was at 360 feet. In this township, Frank K. Fawcett and others drilled their test on the Frank Caton farm through the Gas sand and found it dry. It may be plugged back for a small producer.

In Greene County, D. G. Braddock is rigging up on the Newton Braddock farm in Richhill Township about 1½ miles northwest of Windridge. In Dunkard Township, Fred Garrison is drilling at 440 feet on the G. W. Eberle farm.

In Allegheny County, North Versailles Township, McVey and others are drilling at 1,980 feet on the James Shaw farm.

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Hazards of Water in Stock and Faulty Construction Material

What is considered the more dangerous element under cracking conditions, the presence of water in the charging stock or faulty material used in the construction of the stills? —N. W. A.

Without giving any consideration to the condition of the charging stock, poor material, either as to composition or workmanship, not suitable in every respect to be used under the conditions of cracking, would make it impossible for one familiar with the operation to operate a cracking unit. The principles required for cracking had been known for a long time but it was not possible to bring the process to its present high degree of perfection until the metal vessels could be made of the required thickness and size. Now faulty material does not happen, because the rigid inspection of the metal as to chemical composition and physical condition on the part of the manufacturer, together with the specifications set out by the refiner, make it impossible for poor material, either as to composition or workmanship, to even reach the refinery.

When equipment is once put into service it is then that care must be exercised to assure a safe charging stock and proper operation of the cracking unit. It is of course necessary that water should be kept out of the charging stock; any appreciable quantity reaching the cracking zone is recognized as an extremely hazardous condition. However, the modern cracking unit is so arranged that it is practically impossible for water to reach the high temperature of the cracking tubes or chambers in the course of normal operations.

The inflammable liquids, gases, toxic vapors, condition of stock with respect to corrosive compounds, and possible presence of water, drainage systems and general conditions of the plant, all have a relation to the safety of property and the lives of operators about petroleum refineries. The entire subject is well covered in a recent bulletin of the U. S. Bureau of Mines, Technical Paper 551, "Safety at Petroleum Cracking Plants," by R. L. Marek. This authority states that the design of safe cracking equipment depends upon the consideration given to the influence of (1) high temperature on the strength of metals; (2) corrosive action in reducing the wall thickness; and (3) balanced design on the safety of pressure vessels.

When discussing the presence of water in the charging stock Mr. Marek states that water is one of the most dangerous hazards in cracking plant operation. Water increases about 1,700 times when it changes into steam, and if a relatively large volume is present in the system, enormous pressure, which may rupture part or all the equipment, may be produced when it changes to steam. Water may be removed from charging stock by chemical treatment, dehydration, proper manipulation of valves, correct engineering design, proper arrangement and maintenance of equipment. Frequent bleeding of stock tanks and checking of swing-pipe positions are essential. Each intermediate storage tank should be large enough to store a three-day supply to permit adequate settling of water. When the distillation test shows that the oil contains 0.4 per cent or more of water the oil should be rejected as a charge to the cracking unit. See also Universal Oil Products Co.'s booklet No. 98.

Baume Hydrometer System as Related to A.P.I. Standard

I would be glad if you could give me some information concerning the Baume hydrometer. I have been endeavoring to find out why the density of petroleum products is generally quoted in the A.P.I. scale in preference to specific gravity. The ratio between weight and volume is very conveniently expressed by specific gravity and the introduction of an arbitrary scale like of the Baume hydrometer seems to be definitely confusing and somewhat unscientific.—W. C.

Baume, a French chemist, who died in 1804, is well known for his numerous contributions relating to the application of scientific principles in the industries. Among his inventions is the hydrometer used in every manufacturing plant which is concerned with liquids. This instrument may consist of any graduated scale arranged to float vertically in a liquid, the extent to which it will sink depending upon its weight and the density of the liquid. The ordinary hydrometer is a sealed glass tube, weighted at one end, containing a graduated scale. The petroleum hydrometer is made with a scale, called degrees, starting at 10, the graduation to which the tube will sink when placed in pure water at 60° F., and increasing as the actual density, specific gravity, of the liquid becomes less.

Baume made two kinds of hydrometers, one for use in liquids heavier than water, acids, alkaline solutions, etc., and the other for liquids lighter than water, oils, alcohol, etc. These have a definite relation to specific gravity, that for the oil hydrometer, liquids having a specific gravity less than that of water, is

$$\frac{140}{130+\text{Be. deg.}} = \text{specific gravity at } 60° \text{ F.}$$

When the U. S. Bureau of Standards undertook, in 1904, to test hydrometers, for certification as to accuracy, it was discovered that many hydrometers in use in the petroleum industry were not scaled to the 140 formula but were more nearly in agreement with a formula in which 141.5 and 131.5 were substituted for 140 and 130. Extensive data had been gathered with the 141.5 instrument, but the 140 hydrometer was also in use. This confusion continued until 1921, when through the recommendation of the American Petroleum Institute, the Bureau of Mines and the Bureau of Standards, the 141.5 formula was designated as the standard for the petroleum industry of the United States and to be known as the A.P.I. modulus.

The A.P.I. scale is not thought to be scientific, the specific gravity is better in many respects, but it was not thought advisable in 1921 to change over to the specific gravity scale. The National Petroleum Tables, Cir. 154 of the Bureau of Standards, obtainable upon payment of 50 cents from the Superintendent of Documents, Washington, D. C., explains the adoption of the A.P.I. scale and contains tables for the correction of volume for temperature changes, reduction of observed degrees A.P.I. at any temperature to 60° F., conversion to specific gravity, and other data.

Acid Treatment of Wells and Acid Required for Aragonite

Will you kindly give references in The Oil and Gas Journal giving an account of the treatment of oil and gas formations with acid? How much acid is required for treating aragonite?—C. S. D.

Among the articles that have appeared in The Oil and Gas Journal relating to acid treatment of oil wells are: October 27, 1932, 70; December 22, 1932, 42; February 23, 1933, 8; March 15, 1933, 75; October 12, 1933, 10; October 12, 1933, 88.

Aragonite is one of the lime carbonate minerals, which, when pure, may be represented by the formula $CaCO_3$, excluding water. Absolutely pure deposits are seldom found. The action of hydrochloric acid on the pure carbonate is indicated by

$$CaCO_3 + 2\,HCl = H_2O + CO_2 + CaCl_2$$

Representing this in molecular weight pounds, it appears that 73 pounds of the acid is required for the decomposition of 100 pounds of the carbonate, or 1 pound of acid per 1.37 pounds of the carbonate. This is based on pure hydrochloric acid, the concentrated commercial product, specific gravity 1.2134 contains 43.4 per cent HCl.

The article by S. W. Putnam, The Oil and Gas Journal, February 23, 1933, directs attention to the several problems involved in this special use of hydrochloric acid and suggests that each case requires careful study of all factors involved.

This method has been patented but the directions and particulars covering the purchase of acid, containing the inhibitor-may be obtained through The Oil and Gas Journal, upon request.

Spray Oil as Dust Inhibitor for Treating Coal

Can you give us any information concerning the quality of the oil used for spraying coal? We will greatly appreciate the information and if possible give us a formula and specifications for making coal spray oil. —C. O. M.

The practice of storing coal under water originated many years ago, the object being to prevent loss through spontaneous combustion and dust formation. Where large quantities of dusty coal are handled the operators frequently spray the coal with water as it moves to the furnaces. The objection to the water as a dust settler is that it soon evaporates leaving the coal just as dusty as before the treatment.

Emulsions were found to give better results, but since the oil is the essential material for keeping the coal dustless experiments were conducted with oil alone. The results obtained showed that several of the petroleum distillates were well adapted for the purpose.

The petroleum oils most frequently used for treating coal to reduce the dust annoyance are the distillates, such as heavy kerosene, gas oil and the lighter fuel oils. There are some advantages in treating coal with oil in addition to the dust control factor, the most important being that it aids combustion and assists in producing a long flame. The important considerations are that the oil should be of medium viscosity, 100 seconds or less at 100° F. being satisfactory, and not too low flashpoint, because of the fire hazard. A flash above 175° F. will be safe under most conditions. The gravity of the oils reported to be in use varies between 28 and 40 A.P.I., the larger number falling between 30 and 38. The heavy fuel oils are sometimes atomized together with water, but they are considered difficult to handle because of the high viscosity, high cold test and the tendency to form sticky masses with the finely divided portions of coal. The distillates of the kerosene and gas oil type are the most satisfactory for the purpose; they flow easily, have a high flash and can usually be obtained testing a low pourpoint.

The quantity of oil commonly used for spraying coal is about 1 gallon to the ton of coal. However, this should vary with the condition of the coal and is limited by the market price of the oils available. These oils are not especially made for use as dust settlers, but are unfinished distillates produced as incidental products when manufacturing the normal petroleum products, such as gasoline and lubricating oils.

Emulsifiable oils are desired by some because such oils have a high coverage or wetting power per unit of oil. The oils used to make an emulsion may be an unfinished lubricating distillate or a fuel oil. Any of the mineral oils may be modified for use in making emulsions, usually by the addition of a lime soap or small quantities, under 10 per cent, of oleic acid and triethanolamine, the kind of material added for this purpose being limited by the expense that is allowable.

NATURAL GAS DEVELOPMENTS

University of Pittsburgh Natural Gas Laboratory

The School of Mines of the University of Pittsburgh has established, with the co-operation of the Natural Gas Men's Association of Pennsylvania, a new laboratory for instruction and research in natural gas engineering. Several weeks ago Chancellor Bowman of the University designated a large room 35'x55', situated on the ground floor of the new Cathedral of Learning, for permanent use as the natural gas laboratory. Heat, water, gas and other facilities have been provided. This is the first engineering laboratory to be established in the new Cathedral of Learning. The several natural gas companies of Pennsylvania which comprise the Natural Gas Men's Association of Pennsylvania, and including the Peoples Natural Gas Co., the Equitable Gas Co. and the Manufacturers Light & Heat Co., have donated to the university the complete equipment for the laboratory. J. W. Brown, of Pittsburgh, a former student of the university, has donated for the laboratory a complete motor-driven Champion compressor unit. Within a few weeks the School of Mines will have in operation one of the most complete natural gas laboratories in the country.

The laboratory will be under the supervision of Prof. H. C. George, head of the oil and gas department of the university, who came to Pittsburgh last fall from the University of Oklahoma, where he had been director of the School of Petroleum Engineering.

Decision to enter into natural gas engineering was made after consultation with the oil and gas advisory committee of the university, consisting of Dr. J. French Robinson, vice president of the Peoples Natural Gas Co.; Dr. Paul D. Foote, executive vice president, Gulf Research & Development Corp.; Dr. K. C. Heald, chief geologist, the Gulf companies; Dr. William Hamor, assistant director of Mellon Institute of Industrial Research; Ralph E. Davis, consulting petroleum and natural gas engineer; E. L. Esterbrook, petroleum engineer, Standard Oil Co. of New Jersey, and C. V. Millikan, chief petroleum engineer, Amerada Petroleum Corp.

A complete four-year curriculum in natural gas engineering as a third option in the oil and gas department has been outlined by Professor George, and next fall freshmen will be admitted to the new course. Research work in natural gas engineering will be started immediately.

LOUISIANA LINE

HOUSTON, Tex., Feb. 26.—United Gas Public Service Co., Houston, is laying approximately 10 miles of gas line from the company's main line south of New Iberia to Jefferson Island to serve the sulphur mining operations of the Jefferson Lake Oil Co.

BLOCKS MUNICIPAL PLANTS

El Paso, Tex., city officials recently declined to apply for a loan for a gas plant on the grounds that the Federal Government disapproves of loans for projects in competition with established utilities. According to newspaper reports, this fact has apparently blocked many movements for municipal ownership of gas and power plants.

NEODESHA EXTENSION

The city of Neodesha, Kans., recently voted a $35,000 bond issue for the purpose of improving and extending its natural gas distribution system.

Report of Ontario Bureau of Mines on Natural Gas Operations in Canada

TORONTO, Ontario, Feb. 24.—The Forty-second annual report of the Ontario Bureau of Mines has just been completed by Col. R. B. Harkness, and gives detailed official figures covering operations for the year 1932. The report states:

"Natural gas produced in Ontario in 1932 totaled 7,386,154,000 feet, valued at $4,719,297, exceeding the previous year's production by just less than 10,000,000 feet, and the amount of imported mixed gas exceeds that of the previous year by almost an equal quantity. In value of product, natural gas has moved from fifth place to third place, only exceeded in value by gold and nickel. The importance of the natural gas industry in Ontario can better be realized by comparing it with such industries as Portland cement, clay products and all other nonmetallics. The value of natural gas produced now exceeds that of copper and silver."

Official figures show general declines in production in 1932 compared with 1929. For the related areas of Kingsville in Essex and Tilbury in Kent, the 1929 figure of 5,780,061,000 feet dropped to 4,506,072,000 feet in 1932. The Dover Field in Kent was down from 366,224,000 feet to 275,958,000. In Lambton County the Dawn and Oil Springs Fields were up from 94,027,000 to 170,671,000 feet. In Middlesex County a small production of 300,000 feet at Crumlin in 1929 was not reported in 1932. The Bayham Field in Elgin County (otherwise known as the Vienna and Richmond Fields) showed fairly steady production. 46,272,000 feet in 1929 and 45,708,000 feet in 1932. Norfolk County increased from 343,765,000 to 365,638,000 feet. Lincoln, Haldimand and Wentworth Counties, combined, yielded 1,522,371,000 feet in 1929 and 1,453,864,000 feet in 1932. The Onondaga Field in Brant County was up from 31,558,000 to 140,612,000; a small area in Anabel Township, Bruce County, increased from 107,000 to 500,000 feet; and the Welland Field was up from 298,688,000 to 351,616,000 feet. Surface wells in Howard and Sarnia Townships reported 39,814,000 feet in 1929 and 15,515,000 feet in 1932; while production of private wells is placed uniformly at 50,000,000 feet. The totals were supplemented by small amounts of imported gas (natural and artificial) the total distribution of gas by natural gas companies being 8,725,525,000 feet in 1929 and 7,497,881,000 feet in 1932.

According to the report the temperature being mild and producers practicing economy, the production for the years 1931 and 1932 can be considered below normal.

"The major distributing and producing companies in the province did no exploratory or development drilling during the year, leaving this field entirely to the independent producer, in consequence of which 13 new producing companies entered the field, mainly in Haldimand county. The number of producing wells drilled during the year dropped from 196 in 1931 to 151 in 1932, and the open flow from new wells dropped from 45,123,000 feet in 1931 to 8,870,000 feet in 1932. There is a decrease of 283,632 in the acreage under lease and $148,855 in the rentals paid."

Official figures show that in 1927 the capital invested in all natural gas operations in Ontario, including drilling, producing and distributing was $31,987,879 with 1,123 men employed and $1,148,339 wages paid. In 1932 the capital invested had increased to $45,982,719, but men employed had declined to 893 and wages to $1,059,643. The people of Ontario have, at a low valuation, $7,000,000 invested in service lines, house piping, ranges, furnace equipment, burners, etc., space heaters, hot plates and hot water heaters.

The official tabulation shows that in 1932 there were 103 cities, towns or villages (some of them with group systems) supplied with natural gas. Populations of individual municipalities range from 100 to 154,701. There were 78,955 pay and 92 free consumers, consumption being 4,849,121,000 pay, 21,165,000 free and 1,237,041,000 industrial. Distances of communities supplied from the producing areas range from 1 to 172 miles and rates vary from 40 cents to $1.30 per 1,000 feet. Some 74 townships in 13 different counties are also served, with a total of 7,676 pay and 710 free consumers, the gas consumed aggregating 560,033,000 feet pay, 139,786,000 free and 59,035,000 industrial. The range of rates is the same.

A summary of gas wells in 1932 shows wells in 14 different counties of southwestern Ontario. There were 2,707 producing wells and 42 abandoned. Wells drilled in 1932 included 151 producers with 8,870,000 feet daily open flow, and 32 dry. Rock pressures reported in the producing wells varied from 50 to 700 pounds. Some 723,182 acres were under lease, with $240,021 rentals paid.

"Very little new work was done or extensive improvements made in 1932. The policy of the natural gas industry was retrenchment rather than expenditure. Only where new consumers requested gas were extensions made."

The report gives detailed figures on leakage. Out of 7,310,000,000 feet produced by recognized gas companies, 4,330,000,000 feet were measured into pipe lines. A comparison of leakage in 1931 and 1932 shows the latter a favorable year. Leakage has been materially reduced, and many distributing plants are under the standard set as "good operating service." Leakage surveys are being constantly carried out. There are 1,500 miles of gas transmission lines and 1,855 miles of gas distribution lines of all sizes in the province.

Among distribution plants, the lowest leakage per consumer was 128 feet recorded the in Union Gas Co. system at Blenheim; the highest 33,650 feet. Leakage on rural lines varied from 288 to 36,909 feet per consumer.

Under the natural gas conservation act of 1927, licenses must be taken out for all natural gas operations in Ontario, the fees being $5 for leasing and prospecting, $5 for drilling, $10 for production, $10 for distribution and $10 for operating a pipe line. Official tables show that in 1932 there were 68 licenses to prospect and lease, 55 to drill, 75 to produce, 30 to distribute and 4 to operate pipe lines. The last named are the Central Pipe Line Co. of Chatham, the Dominion Natural Gas Co. and the Southern Ontario Gas Co. of Buffalo, N. Y., and Union Gas Co. of Chatham.

Blast Breaks Gas Line and 270 Families Shiver

BRADFORD, Pa., Feb. 24.—With temperatures hovering around the zero mark, 270 consumers of natural gas in the Rew, Rixford and Duke Center area were without heat for more than six hours when blasting operations blew a hole in a line of the United Natural Gas Co. near Bordell at 3 p.m.

So large was the hole that a 2-foot coupling proved ineffective and an entire section of extra pipe was installed.

Five schools and three churches were among the buildings without fuel during the period.

SOUTHERN INDIANA RESERVE

A reservoir, 60 miles long and 25 miles wide, containing sufficient natural gas to supply all of southern Indiana, including Indianapolis, lies in the southwestern section of that State, according to a report by Dr. W. N. Logan, state geologist. The section is in Sullivan, Knox, Pike, Gibson, Dubois, Martin, Lawrence, Green, Monroe and Perry Counties. Gas engineers also assert there is a potential undeveloped field in Switzerland County.

Based on engineers' estimates, the consumption of gas by all southern Indiana cities, including Evansville and Indianapolis, the two largest cities, would be approximately 7,720,000,000 feet annually. The Indianapolis consumption alone is estimated at 5,000,000,000 feet annually.

GAS COMPANY TROPHY

SARNIA, Ontario, Feb. 24.—Employes of the Sarnia and Petrolia division of the Union Gas Co. of Canada, Ltd., won the president's trophy, awarded to the division making the highest number of sales per meter in 1933. The presentation was made recently by R. L. Bevan, manager of the natural gas division, and was received by J. B. Williams, Sarnia manager.

WESTERN SERVICE SALE

Federal Judge Edgar S. Vaught, at Oklahoma City, has cleared the way for sales of the Western Service Corp, Guthrie gas distribution plant and pipe line, overruling a petition of stockholders and others to delay the sale. Twice the date of sale has been set, but delayed at the request of stockholders for more time to reorganize the company, which has been in Federal receivership for two years.

COLUMBUS RATE OFFER

COLUMBUS, Ohio, Feb. 24.—An offer to furnish natural gas to Columbus and its suburbs at a gate rate of 28 cents, which, it is claimed, would permit its sale to consumers at 43 cents per 1,000 feet, or 12 cents less than the present rate of the Columbus Gas & Fuel Co., was made to the Columbus city council by J. R. Armstrong, vice president of the Consolidated Pipe Line Co., who asks for a 30-year contract.

LARGE CONVERSION JOB

The Texas Cities Gas Co. is completing one of the largest main installations undertaken in years. This is the conversion of Fort Bliss for natural gas service and involves the laying of 7,000 feet of 2-inch pipe, 6,000 feet of 4-inch pipe, and installation of 1,000 new services. New service connections in the form of 90-degree nipples and tees are being installed for all services. This practice is new at El Paso, but has been used for some time in other parts of the State.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Destructive Work of Termites Is Serious in Some Oil Fields

Can you supply me with some information regarding termites and the extent to which they are a menace around oil-field buildings of various sorts? I have found several cases where these insects had begun to work, but I believe I caught them in time and used a mixture which is said to be a protection for the future. Do they attack any woodwork aside from that underneath buildings?—E. H. E.

Interesting facts are published in a new book entitled "Termites and Termite Control," a report of the Termite Investigation Committee, University of California Press, Berkeley, Calif., which deals with these destructive parasites in oil country. In one chapter a specific report is made by A. C. Horner and George A. Rader covering oil derricks and other wood towers observed in California.

The following excerpts are taken from reports to the committee in reply to questionnaires sent to various oil companies:

"Derricks in the southern part of the State (California) were found attacked from top to bottom, including foundation members. Possibly the worst damaged portions of the derricks were the crown blocks, water tables, and sills and legs at the corners. Portions of derricks were replaced and repairs made to adjacent buildings, one being abandoned and a few derricks were totally replaced. In one field 49 derricks out of 87 examined (56 per cent) were infested in varying degrees, while on one of our leases 21 derricks out of 30 examined (70 per cent) were infested. The dry-wood species predominates in these particular fields. The age of the derricks varies from 9 to 20 years. It is hard to estimate the annual damage attributed to termites, but during the past 2½ years we have spent about $12,000 for repairs in southern California, most of which was made necessary by destructive work of termites.

"Termite infestations have been found in derricks, houses, power and telephone poles, wooden braces and posts in pumping (jack) plants, culverts, bulkheads and fences in every location in our fields. The infestations were found in Douglas fir, redwood, white spruce, red cedar and eucalyptus woods which had been in service longer than five years. Of the total of 362 wooden derricks of our company located in the Los Angeles Basin, slight infestation was found in 90 per cent; partial infestation of footing and sills in 40 per cent; and infestation from top to bottom in 20 per cent of the derricks. We have no basis for estimating the monetary value of the total damage due, respectively, to termites and/or dry rot. However, in southern California we have estimated the cost of repairs that should be made to wooden derricks, due to termites and/or dry rot, would require an expenditure of $8,830."

While the total of information on derricks and tower structures collected by the committee has been small, it is believed that it presents a reasonably good idea of the relative importance of the damage done to oil derricks and similar structures as compared to damage done to other types of structures.

In another chapter in this book it is stated that out of reported cases of damage by termites to buildings in the United States reported to the U. S. Bureau of Entomology from July 1, 1931, to July 1, 1932, the following were in:

	Cases reported	Termites, species
Arkansas	38	3
Louisiana	42	5
Texas	106	20
Oklahoma	34	2
Kansas	11	2
California	68	19
Total	299	

The total number of cases reported in the United States during the above period was 1,646 and those in the above enumerated states represent 18.2 per cent of the total. It is also interesting to note that the highest number of species are reported from Arizona, an area unfavorable for oil, with 25 types found there while Texas and California, both oil states, follow with 20 and 19 species, respectively.

Core Is Examined for Lithology, Structure and Sand Content

When cores are taken in the drilling of a well just what kind of information is obtained and by what sort of examination of the core, please?—E. N. N.

In a paper presented before the World Petroleum Congress, London, England, in July, C. A. Sansom states that core evidence, which is obtained mainly from rotary drilled wells, is generally speaking of three kinds—lithological, structural and fluid content of the sands. By the use of modern cable tool core barrels good cores can be obtained from holes drilled by that method also.

In examining a core for its lithology, careful washing is essential, particularly if thin, distinctive beds valuable as marker horizons are expected. Such examination can then be followed by detailed search for fossils, micro-organisms and heavy materials.

In examining cores for structure account must be taken of the deviation of the hole, and care is necessary in interpreting the evidence given by false-bedded sandstone. Some rocks which at first show no clearly defined dip may yield some evidence if allowed to dry. Faults may be shown by the presence of abnormal dips, by slickensliding, by calcite and gypsum veins, or by the elimination or repetition of a part of a known succession.

The evidence which is the most difficult of all to interpret is that of the oil, gas and water content, on which so much often depends. Oil sands differ markedly in the showings they yield in cores and observers do not agree as to the value to be assigned to these core showings. Much depends on the gravity of the oil, the depth of the hole, the pressure, the conditions of coring, and the rock type. "Bleeding" cores have been known to represent both good producing sands and poor sands. Where conditions are favorable for a drill stem test, careful estimation of the value of such cores from inspection alone is not essential, but otherwise great care has to be taken. Amongst the general points to be remembered are the necessity for an examination of the core immediately on withdrawal from the well, the fact that many cores absorb water from the mud circulation, the different showings given by heavy and light oil, and the disproportionate showings often given by cores from marginal wells.

In dealing with cores of sands suspected to contain light oils, a strong smell from a fresh surface is often indicative of the presence of light oil in commercial quantities. The cores should, however, show at least a little oil, wet surfaces should dry quickly and the core barrel itself may contain a little oil. If, however, there is no sign of oil whatever and bubbles of gas appear, the sand may be gas bearing.

Why Was It Called That?

LOCOMOTIVE

The locomotive, which has played an important part in the transportation of oil and its products, got its name from two Latin words, "locus," place, and "motivus," moving. A nineteenth-century word, "locofoco," is ascribed to the fact that uneducated folk supposed locomotive meant self-moving. John Marck, of New York, in 1834 invented a self-lighting cigar and called it "locofoco" in imitation of "locomotive." Afterward the name was applied to a faction of the Democratic party. Early steam locomotives were described as "puffing billies," "snorting race horses," "hell on wheels," "devil wagons," "iron horses," "black dragons snorting sparks," "rockets that were going to go up and come down in sections." The term "devil wagon" was applied to early automobiles also.

Cementing Endless Belts So That They Will Not Cause Trouble

I have trouble from time to time as a result of leather belts in our oil field machine shop pulling apart where they have been spliced in joining two ends to make them endless. A good quality of cement is always used and the joint seems all right for a time, but after a while it separates. I do not believe all machine shops have this trouble and I would be glad to get some suggestions. We have the same trouble with both waterproof and ordinary belts.—O. E. M.

Cementing of belts is not a complicated operation, but it demands careful attention to its details, and if you have been using a high-grade cement it seems probable that any defect in the job lies somewhere else. George B. Haven and George W. Swett, in their treatise on leather belting, give directions for cementing endless belts as follows:

If the regular cement is to be used, the laps in either single or double belting are tapered carefully with a plane or spoke shave until they fit together evenly with the rest of the belt and the fibers are roughened. The cement used should always be of the best, adapted for belting work and preferably bought from some reliable belting manufacturer. As a whole no belt is stronger than its weakest lap. The gelatin cement is rubbed, when quite hot, into both surfaces. Then the laps are put together promptly and rubbed, always toward the joint; then hammered with a shoemaker's hammer for several minutes until the glue is set. The lap should be allowed to dry undisturbed for 10 or 15 minutes and should not be put under tension or run for an hour or two after sticking. The time varies with the cement and the drying conditions.

Waterproof cement of course should be used on all water proof belts and in damp places. It has the added advantage for use on all belts of not requiring a cement heater. After the laps have been prepared as for regular cement, a coat of the waterproof cement is rubbed into both sides of the joint and allowed to dry thoroughly. This is repeated. Then a third, and heavier, coat is applied and the laps are immediately put together under pressure. Never hammer a waterproof cemented joint. Apply pressure by means of a regular press block or by means of pieces of wood between "C" clamps on smaller belts. Keep under pressure for at least an hour. Allow the joint to dry before using not less than six hours and preferably 10 hours or more.

Endless laps on small waterproof belts can be made with one sticking. On large jobs 6 inches at a time should be cemented, pressed and allowed to set before the next 6 inches is put together.

If you follow the foregoing directions faithfully the next time you cement an endless belt it is believed you will have no trouble afterward.

PERSONAL PARAGRAPHS

A. DIVOVITCH has been elected vice chairman of the board of Russian Oil Products, Ltd.

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W. F. WEEKS of Tyler, Tex., has been retained as special counsel of the Texas Petroleum Council.

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H. H. HINDRY, of Denver, Colo., was in Casper, Wyo., last week. Mr. Hindry has oil interests in central Wyoming.

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A. DRAGULANESCU has been appointed technical director of fields of the Steaua Romana S. A., in place of the late E. DIMITRIU.

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A. H. MAYLAND, of Calgary, president of Mercury Oils, Ltd., has returned from a two-month visit to California and southern points.

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J. M. AINSWORTH, A.I.S.A., London, has been appointed secretary of the Vacuum Oil Company. Mr. Ainsworth joined the Vacuum Oil Company in June, 1918.

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CAV. DI GR. CROCE ATTILIO POZZO, head of the Shell organization in Italy, has, on the proposal of SIGNOR MUSSOLINI, been nominated a senator of the realm of Italy by the king of Italy.

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J. H. WALKER has been appointed geologist of the Sunray Oil Company by PRESIDENT-RECEIVER C. H. WRIGHT.

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L. L. FOLEY, petroleum engineer for the Mid-Kansas Oil & Gas Company, Tulsa, has just completed a business trip to Texas.

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DAVID E. BEACH, general superintendent of the Pure Oil Pipe Line Company, was called to Washington for a code conference.

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A. E. WHITE, oil operator and stockman of Morris, Okla., is recovering from an eye operation performed last week at Okmulgee.

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PROF. D. C. MACLACHLIN, Geologist from Wayne University, Detroit, Mich., visited the Mount Pleasant Field during the past week.

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ALF G. HEGGEM, Tulsa manufacturer, was elected president of the Tulsa Industrial Corporation at a meeting of the board of directors.

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GUY E. CHAPMAN, geologist for the McClanahan Oil Company, left Mount Pleasant, Mich., for Oklahoma, where he will visit his mother for a short time.

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DUDLEY C. SHARP, vice president, Mission Manufacturing Company, Houston, Tex., and MRS. SHARP have returned from a pleasure trip to the Bahama Islands.

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A. M. BOWMAN, Oklahoma-Kansas district manager, the Parkersburg Rig & Reel Company, Tulsa, is making a trip along the Gulf Coast of Texas and Louisiana as far east as New Orleans.

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FRANK PARKER, who has been a deputy supervisor of the Texas Railroad Commission in East Texas, is now looking after Glasscock, Howard, Mitchell and Scurry Counties in West Texas, under W. R. BOWDEN, chief deputy for the Permian Basin area.

MARVIN LEE, technical adviser of the Kansas Corporation Commission, was a vistor in Oklahoma last week.

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M. C. SEAMARK, of the fields branch of the Anglo-Persian Oil Company, Ltd., is paying a brief visit to Persia.

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J. H. HILL, general attorney for the Kansas-Oklahoma division of the Texas Company, has been on a vacation in Florida.

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CORNELIUS SCHNURR, Gulf Coast division geologist of the Mid-Continent Petroleum Corporation, was a visitor in Tulsa last week.

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JOHN H. BAIRD, manager in New York of the oil tool division of the Byron Jackson Company, has arrived in London. Before returning to New York, Mr. Baird will make a brief trip to the Continent.

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H. W. CONLEY, of Osage, Wyo., visited in Casper recently. He is with the Yellowstone Petroleum Company, and was formerly with the Kinney-Coastal Oil Company of Denver. With his father, he is interested in several shallow wells and a small refinery in the Big Muddy Field east of Casper.

ED KOPP, district manager for the Smith Separator Company, Fort Worth, Tex., on February 17 welcomed a boy to his home.

• • •

EARL HENDERSON, scout and landman for the Benedum-Trees organization, is now located at Winfield, Kans. He was formerly with the Prairie.

• • •

A. G. CRABB, oil operator of San Angelo, died in that city on February 19 after a short illness. He is survived by his widow, one son and three daughters.

• • •

MISS FLORENCE LUNDELL, librarian technical department, Tulsa Public Library, made a quick trip to Colorado to visit her parents last week and is now back at her desk.

• • •

A. C. SMITH, secretary of the Panhandle Conservation Association, has opened offices in the Amarillo Building, Amarillo, Tex. J. T. SNEED, JR., is president of the organization.

• • •

W. M. PECK, formerly assistant head of the land department of the Pure Oil Company at Fort Worth, Tex., has been transferred to Saginaw, Mich., to be in charge of the land department in that district.

• • •

CHARLES R. KRAUSE, president, Lee C. Moore Company, Tulsa, is in Louisiana this week on company business.

• • •

S. M. (PUNY) BLEVENS has accepted a position in the sales department of the Frick-Reid Supply Corporation.

• • •

GEORGE D. NORDENHOLT, mining and petroleum engineer of Los Angeles, has been made director of natural resources of California.

• • •

CHARLES FLINT, president, American Steel Derrick Company, Tulsa, left the latter part of last week for a few days in New Orleans, La.

• • •

HARRY C. WIESS, vice president of the Humble Oil & Refining Company, Houston, Tex., and MRS. WIESS have returned from a trip to New York.

• • •

WESLEY G. GISH, in charge of the land department for the Sinclair Prairie Oil Company at Fort Worth, Tex., was a business visitor to Tulsa last week.

• • •

BURT SUTHERLAND, of Pittsburgh, Pa., eastern representative for the Lee C. Moore Company, was looking over the Central Michigan Field at Mount Pleasant.

• • •

CARL ANDERSON, field engineer for the Oil Well Supply Company, has returned to Oil City, Pa., after spending several weeks making a survey of Central Michigan fields.

• • •

F. E. ANDERSON, of Milford, Ind., representative of the International Derrick & Equipment Co., was a visitor in Mount Pleasant, Mich., for several days during the past week.

• • •

P. E. POETHIG, chief engineer for McAlear Manufacturing Company, Chicago, is on a business trip to San Francisco and Los Angeles and will return by way of the Mid-Continent Oil Fields.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

March 1, 1909

A partial shutdown of drilling operations in Oklahoma and Kansas was approved by the Mid-Continent Oil and Gas Producers Association on February 27.

Hollanders own 100 producing wells in the Glenn Pool. J. E. Crosbie of Tulsa is in charge of the operations of the Dutch oil men.

Judge James B. Diggs, before the Oklahoma legislature, offers to donate $5,000 to any worthy charity chosen by the governor if any member of the legislature can show even a shadow of evidence that there is any connection between the Standard Oil Co. and the Gulf Pipe Line Co. The judge posts the $5,000 but his offer goes unchallenged.

20 Years Ago

March 5, 1909

Magnolia Petroleum Co. for the first time separates Healdton crude into light and heavy, and posts 70 cents for oil under 32 degrees in gravity and $1.05 for 32 gravity and over.

L. W. Young, Sr., superintendent of the Barnsdall Oil Co., has been appointed general manager of the gas company at Humboldt, Kans. Mr. Young has been in the oil and gas business since 1865.

The Vesper Gas Co. gets a 1,600-bbl. initial producer in the Gordon sand on Rock Camp Run in West Virginia. It was flowing 320 bbls. a week later.

Dennis Hastings, 47 years of age, prominent natural gas official, dies in Tulsa.

L. A. Brenneman, widely known oil producer in the eastern fields, dies in Pittsburgh from injuries caused by a fall on an icy sidewalk. He was 67 years of age.

10 Years Ago

February 28, 1924

Union Oil Co. opens up a new pool in the Athens district in California with its No. 1 Rosecrans.

Gilliland Oil Co. moves its offices from Shreveport, La., to Tulsa.

The Humble Oil & Refining Co. led all companies in the production of oil in Texas in the last three months of 1923, with a total gross of 8,022,993.51 bbls., valued at $8,107,065.05. Its nearest competitor was Gulf Production Co. with 3,976,439.43 bbls. valued at $4,145,970.03.

Amerada Petroleum Co. is starting a test for oil in Cass County, south of Omaha, Neb. It will be core-drilled all the way.

John S. Cordell, Tulsa, sales manager of the Empire Refineries, Inc., has been promoted to be general manager of the Cities Service Refining Co., with headquarters in Boston, Mass.

Twenty-six oil companies, one partnership and one individual produced 68 per cent of all the oil produced in Oklahoma in 1923. McCaskey & Wentz were the partnership and T. B. Slick the individual, ranking with the big oil companies. Gypsy led all with 15,637,500 bbls., Roxana Petroleum Co. (including subsidiaries), was second with 10,375,500 bbls.

DAN J. HARRISON, president of the Harrison Oil Company, Houston, Tex., and MRS. HARRISON spent several days in New Orleans, La.

* * *

A. J. WEIDEMAN, of Mount Pleasant, Mich., assistant proration umpire of Michigan oil fields, and E. C. SMITH, of Saginaw, recently went to Owensboro, Ky., on a short business trip.

* * *

JOHN L. McMAHON, division manager of the Texas Company at Wichita Falls, Tex., who was seriously injured in an automobile accident early last December, has left the Dallas hospital and is back at home, according to his brother, D. F. McMAHON, of Tulsa.

* * *

V. D. JENKINS, proprietor of the Tulsa Refined Oil Company at Joe Station, Okla., with MRS. JENKINS, has returned from a two months' trip to the Pacific Coast. The trip was for Mr. Jenkins' health and he has come home feeling improved in physical condition.

* * *

NELSON K. MOODY, president of the Sinclair Prairie Crude Oil Purchasing Company, has accepted the post of chairman of the Oil Industries Committee of the Tulsa Chamber of Commerce. The committee is composed of 21 executives of major oil companies maintaining important headquarters in Tulsa.

* * *

DAVID E. BEACH, general superintendent of the Pure Oil Pipe Line Company, recently returned from Washington, D. C., where he was called for a code conference as one of nine members of a pipe line committee. JAMES C. GRAVES, of Saginaw, Mich., chairman of the Michigan Proration Committee, also was in Washington last week to confer with Federal officials on labor and contract drilling problems.

* * *

H. C. FOWNES and R. T. WILSON, Pitsburgh, Pa., directors of the Shamrock Oil & Gas Company, have been in Amarillo, Tex., holding a conference with JOHN SHEERIN, president of the company.

* * *

J. R. McCREA, formerly with the Pittsburgh Equitable Meter Company with headquarters at Dallas, Tex., has taken a position with the National Meter Company and been transferred to Oklahoma City.

* * *

W. M. HAYNES, assistant chief engineer, and A. G. WIKOFF, manufacturing accountant, of the Continental Oil Company, were in Artesia, N. M., last week inspecting the Continental refinery at that point.

* * *

J. A. WARREN, of the Kinney-Coastal Company's offices at Denver, Colo., was in Casper, Wyo., last week making arrangements to again start producing the company's oil wells in the Bolton Creek oil field southwest of Casper.

* * *

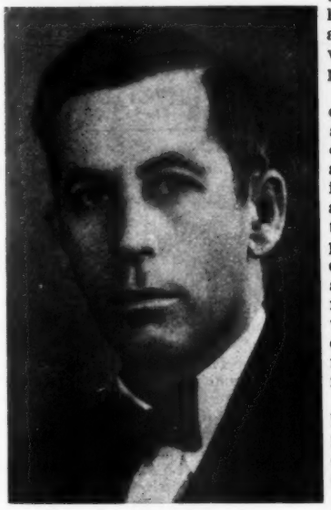
C. B. MANBECK, manager of the Wood River refinery of the Standard Oil Company (Indiana), will retire on an annuity on March 1 after nearly 44 years of service with the company. He will be succeeded by S. A. MONTGOMERGY, who is at present general superintendent of the plant.

* * *

I. LUBBOCK, M.A., chief engineer of the Fuel Oil Technical Department, Shell-Mex and B.P., Ltd., LIEUT. COL. J. H. MAITLAND GREENLY, C.B.E., deputy chairman of Babcock & Wilcox, Ltd., and DR. C. M. WALTER, chief of the research department of the Birmingham Corporation Gas Department, have been nominated for election to the British Council of the Institute of Fuel. DR. F. S. SINNATT, director of the Fuel Research Station, has been nominated a member of the council to represent the Department of Scientific and Industrial Research.

Directs Big Operating Economies

Richard R. Carr, chief production engineer for the Pure Oil Company, is credited with saving the company thousands of dollars in the recovery and reconditioning of used material through the material control department, which is under his direction, and he has brought about big operating economies, with increased efficiency, in the producing fields.



RICHARD R. CARR

Mr. Carr entered the service of the Pure Oil Company in 1919, at which time he was put in charge of general engineering and field construction work having to do with gasoline plants and their management. Since then all new company gasoline plants have been erected and operated under his direction. In addition to this work he collaborated for years on fuel conservation, design and construction of fractionating equipment and related work in connection with refineries.

More recently Mr. Carr has been in active charge of the gas, material control and production engineering departments, in addition to the gasoline plants.

Mr. Carr was born in Brunswick County, Virginia. He attended the public schools there and McGuire's preparatory school in Richmond, Va. Upon leaving school he put in 14 years in the oil fields of Ohio, West Virginia, Indiana and the oil-producing states of the Southwest. He had years of experience with manufacturers of oil field machinery, having to do both with the designing and operation of equipment and in solving operating and maintenance problems.

He and his assistants have developed oil field devices, including the Carr method and device for operating wells.

Mr. Carr's headquarters and residence are in Chicago, but his work requires that he spend the most of his time in the field. In 1931 he married Miss Florence Anne McIver.

H. B. GOODRICH, consulting geologist, Tulsa, has just returned from a professional trip into southern Oklahoma west of Ardmore.

* * *

CHARLES MORGAN, superintendent of the Continental Oil Company refinery at Artesia, N. M., has gone to Big Spring, Tex., to attend a conference of officials.

* * *

HARRY MILLER, in charge of oil country sales for the Detroit Graphite Company, is spending some time in the Tulsa office with DAVE POWELL, local representative.

* * *

C. W. RICE, of Denver, Colo., Rocky Mountain representative of the Worthington Pump & Machinery Corporation, was calling on oil executives in Casper, Wyo., last week.

* * *

H. E. ORR, district manager, Keystone Driller Company, Joplin, Mo., made a trip through his Oklahoma territory last week and visited customers in Tulsa and Oklahoma City.

* * *

FRANK H. LITTLEFIELD, of Toronto, vice president of Canadian Oil Companies, Ltd., and MISS LILLIAN BURGESS, of New York City, were married on February 19 at New York.

* * *

FRANK CARPENTER, of Torrington, Wyo., drilling contractor on the Hardy deep test southwest of Lingle, made a hurried trip by airplane to Spokane, Wash., on account of the critical illness of of a brother.

* * *

JAMES P. MORONEY, who has been a gauger in the Gueda Springs (Kansas) area for Sinclair Prairie Oil Company, has been transferred to the land department and sent to Enid, in its northwest Oklahoma office. Mr. Moroney was for some time scout in the Osage for the old Prairie Oil & Gas Company.

JIMMIE TRIPPLEHORN, son of J. W. TRIPPLEHORN, of Fort Worth, Tex., has returned after spending three years in Casper, Wyo., where he was connected with Watex Oil Company.

* * *

H. D. CRAWFORD, of Parkersburg, W. Va., eastern sales manager of the Parkersburg Rig & Reel Company, made a visit to the Central Michigan Field the past week, conferring with G. E. OLLER, Michigan sales manager.

* * *

A. W. LAUER, division chief geologist of the Kansas-Oklahoma-Kentucky division of the Texas Company, has resigned as of March 1. He will be succeeded by JOHN N. TROXELL, who has been at the general headquarters at Houston, Tex. Mr. Troxell was stationed in Tulsa before going to South Texas.

* * *

PERCY D. McCONNELL, of Bath, N. Y., connected with the Gas States Corporation of Pennsylvania, visited Toledo, Ohio, last week. He formerly lived in Bradford and was well known in the old Lima Field and the Mid-Continent area. He is connected with the Bossier Syndicate, which he says expects to drill three wells on a 12,000-acre block in Louisiana.

* * *

ALEXANDER FRAZER, president Shell Petroleum Corporation, St. Louis, Mo.; J. C. VAN ECK, member of board of directors, and MRS. VAN ECK, New York City; DR. W. VAN HOLST PELLEKAAN, vice president in charge of exploration, St. Louis; H. J. KEMLER, production department, also of St. Louis; T. E. SWIGART, vice president in charge of the Gulf Coast division, Houston; G. R. HENSON, manager of the production department, Houston, and R. D. RISER, Louisiana district manager of production, comprised a party making an inspection trip of the company's properties in southern Louisiana.

* * *

MARK PLUMMER, formerly located in East Texas and connected with the land department of the Pure Oil Company, has been transferred to the Fort Worth headquarters of the company.

* * *

A. W. MONTGOMERY, of the land department of White Eagle Oil Corporation and Magnolia Petroleum Company at Wichita, Kans., is leaving the hospital after suffering with pneumonia since December 9.

* * *

H. A. EASTMAN, who has been Southern Alberta distributor for Great West Distributors, Ltd., oil dealers, has been transferred from Lethbridge to the Calgary office where he will be assistant manager.

* * *

A. R. WILSON, division manager, Rocky Mountain division, producing department of the Texas Company, has returned to headquarters at Denver from a trip to New York to consult with executives of the company.

* * *

E. A. BAILEY, formerly civil engineer for the Pure Oil Company, Fort Worth, Tex., is in charge of the government survey of the Trinity River in Texas, working on plans and specifications for the canalization of same.

* * *

B. B. duPONT, National Radiator Corporation, Johnstown, Pa., is making a trip through the Southwest and calling on refiners and producers in connection with its patented products which they are offering to the trade.

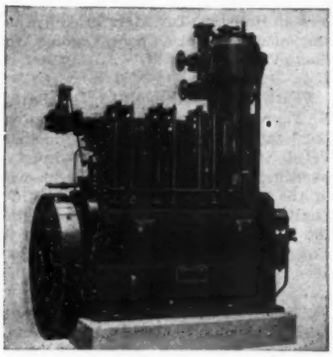
* * *

J. A. (JOE) NIEDIG, who has been in the pipe line department at Eldorado, Kans., has been transferred to the land department and will scout Kansas pools for Skelly Oil Company. He relieves H. WINSTON HULL, transferred to the leasing branch under JOHN P. (JACK) CUSACK, divisional land man.

NEW AND IMPROVED EQUIPMENT

"Unibloc" Compressors Are Introduced by Worthington

To meet the demand for compact engine-driven refrigeration compressors, the Worthington Pump & Machinery Corp., Harrison, N. J., has introduced the



"Unibloc" Diesel and gas engine compressors. In these units a compressor-cylinder is mounted directly on the base of a standard Worthington vertical four-cycle Diesel or gas engine. The piston of one power cylinder is replaced by a cross-head, connected by a piston rod to the compressor-cylinder situated directly above.

High efficiencies are said to be obtained for these units because of the elimination of mechanical friction, placing of the suction valve in the top of the piston, and adaptability of the Worthington feather valve to higher speeds of operation. The valve is operated automatically by the suction and discharge pressures of the compressor, the strips "breathing" between a ground face and a curved guard. With this valve it is possible to maintain normal engine speeds.

Lubrication of the compressor piston and stuffing-box is accomplished by a mechanical force-feed lubricator, driven directly from one of the engine valve push-rods. These compact units operate on cheap fuel oil or gas.

Unibloc compressors are available in a complete range of sizes for handling all types of refrigerants. In the larger units the number of compressor cylinders is increased to obtain the required capacity.

INSTRUMENT COMPANY FORMED

The Wilbin Instrument Corp., 40 East Thirty-fourth Street, New York, has been organized to manufacture and market a complete line of electric instruments for the control of temperature, humidity, pressure, vacuum and liquid levels as used in heating, air conditioning, refrigeration and the process industries. The officers are: Gus A. Binz, president, Clement Wells, vice president; E. A. Ilman, director and chief engineer. Mr. Wells is president of Sarco Co., Inc., manufacturer of steam traps and heating specialties.

CHRISTIAN LICENSED BY FALK

The Falk Corp., Milwaukee, Wis., has licensed J. D. Christian Engineers, 514 Brannan Street, San Francisco, to manufacture Rite-Lo-Speed motors under the original Christian design. The Falk Corp. is the new owner of U. S. patent No. 1,860,703, originally issued to J. D. Christian. The standard motor units, known as Series HD, manufactured by the Christian organization are produced under pending patent applications owned exclusively by J. D. Christian.

Notes About Trade Literature

An eight-page folder issued by the Edward Valve & Manufacturing Co., East Chicago, Ind., presents a portrait gallery of some of the company's valves.

—

The General Electric Co., Schenectady, N. Y., has for distribution a four-page loose-leaf bulletin on indoor oil circuit breakers for use on moderate capacity systems.

—

The Harbison-Walker Refractories Co., Pittsburgh, Pa., is distributing a four-page bulletin on Harwaco bond for fire-clay brick.

—

Bulletin 60-B10, descriptive of cycloidal rotary pumps, has been issued by the Roots-Connersville Blower Corp., Connersville, Ind. These pumps are built on the two-impeller principle, with two and three-lobe impellers, depending upon the type of service to which they are applied.

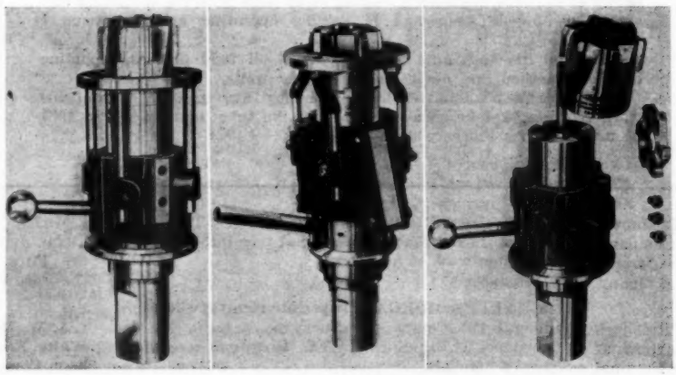
—

A bulletin obtainable from the Quigley Co., Inc., 56 West Forty-fifth Street, New York, tells about Triple-A protective coatings for use in refineries, water-treating equipment, and wherever else there is danger of corrosion.

—

"Stainless and Heat-Resisting Alloy Steels" is the title of an unusually attractive booklet of 48 pages prepared by the committee on stainless and heat-resisting steels of the subsidiary companies of the United States Steel Corp. Copies may be obtained from the American Sheet & Tin Plate Co., Pittsburgh, Pa.; Carnegie Steel Co., Pittsburgh; National Tube Co., Pittsburgh; American Steel & Wire Co., Chicago, or Illinois Steel Co., Chicago.

New Landis Collapsible Taps Supersede Former Line



Style LT *Style LM* *Style LT, with head removed*

The Landis Machine Co., Waynesboro, Pa., has announced a new line of collapsible taps to supersede the Victor collapsible taps formerly manufactured by the Victor plant of this company. The new taps are made in two types, the style LT, a collapsible tap for either straight or taper tapping, and the style LM receding chaser collapsible tap, for taper tapping. They can be used either as stationary or rotary taps.

The outstanding feature is a design, on which patents have been granted, whereby the tap consists of two units, a tap body containing the operating mechanisms and a tap head in which the chasers are supported. This design permits the use of one tap body to cover a wide diametrical range by the application of tap heads of various sizes. In addition, the same tap body may be used for either right or left-hand tapping, provided right and left-hand tap heads are employed.

The collapsing mechanism is positive in its action both with respect to locking the chasers in cutting position and in its collapsing action. The collapsing action is obtained through a hardened steel trip ring coming in contact with the part being tapped, thus insuring uniform thread length. The trip ring is adjustable for various thread lengths.

The tap heads are adjustable for size through an adjusting screw in the front end of the plunger. The screw is self-locking and of the ratchet type so that a turn of one notch gives an adjustment to the chasers of exactly .001 inch.

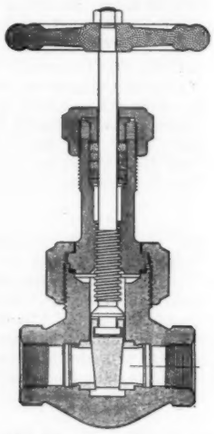
The chasers, supported in slots in the tap head, are held securely in tapered seats in a hardened and ground plunger. The design of the plunger is such as to provide maximum rigidity for the chasers and at the same time there is no tendency for the plunger to rotate under cutting strains and thus force the chasers out of alignment. All locating surfaces of the chasers, as well as the thread form itself, are precision ground.

The LT collapsible tap is designed primarily for straight tapping, but can be used for tapping tapered threads of a length not exceeding the American tapered pipe standards. The LT taps are made in five sizes which, when equipped with the proper tap heads, cover a combined range from 1¼ inches to 13¼ inches inclusive.

The style LM receding chaser collapsible tap is designed for tapping tapered threads. The receding chaser action minimizes cutting strains on this class of work with the result that greater accuracy and longer chaser life are obtained. The LM taps are also made in five sizes covering a combined range from 1¼ to 12-inch pipe or 1½ to 13⅜-inch diameter.

Henry Vogt Announces New Drop-Forged Steel Valves

The accompanying illustration shows one of several new type valves recently announced by the Henry Vogt Machine



Co., Louisville, Ky. It is a drop-forged steel gate valve with union bonnet and inside screw stem, the bonnet having a gasket or ground joint as desired. The seats are rolled in and may be easily removed while the wedge is solid.

These valves are available in sizes from one-quarter inch to 2 inches. They are designed for oil or steam service up to 600 pounds at 800° F. or nonshock cold working pressure up to 1,500 pounds and may be repacked while under pressure. They are provided with steel, stainless steel, Nitralloy or Monel metal trimmings to suit the intended service.

Rockwood Offers Two New Pivoted Motor Drive Bases

The ceiling and vertical types of pivoted motor drive bases are new products announced by the Rockwood Manufacturing Co., Indianapolis, Ind. The former is designed to meet the need for a simple and inexpensive means of mounting motors overhead for lineshafts and countershafts. The other is for drives where the belt leads vertically up or down to the driven pulley and trouble usually is encountered in keeping the belt tight.

In the Rockwood ceiling drive, the weight of the motor, lightly cradled in the belt, automatically maintains the belt tension. The pivoted motor instantly adjusts itself to changing belt length, whether caused by normal elongation, by atmospheric conditions, peak loads or by centrifugal force, and correct belt tension, once established, remains constant. Power is delivered to the lineshaft steadily and dependably, and the performance and capacity of driven machinery are improved.

In the vertical drive base, as in all Rockwood drives, the motor is mounted on two adjustable arms which extend from a pivot-shaft. But in this drive the weight of the motor is counterbalanced by two strong coil-springs connected by rods to the arm brackets. The tension of these springs is quickly adjustable to fit the requirements of each installation and each operating load.

When the motor is located above the driven pulley the springs are adjusted to support the entire weight of the motor plus the necessary belt tension. When the motor is located below the driven pulley the springs are adjusted to support only

that portion of the motor's weight not needed to provide belt tension.

The driven load determines the belt tension required. The belt tension may be accurately established by the machine operator and instantly changed to accommodate different operating loads as often as desired.

Fuel Oil Heater Providing Flexible and Compact Unit

A new type of fuel oil heater placed on the market by the Griscom-Russell Co., 285 Madison Avenue, New York, has features designed to provide flexible and compact installation. This apparatus is the Griscom-Russell twin G-fin section, consisting of two parallel steel pipes, each serving as a shell for a single patented G-fin pipe with a return bend at one end and all inlet and outlet connections at the other end. The G-fin pipe is made in the form of a U-bend or hairpin, each leg of which is contained in one of the two parallel pipe shells.

These units, being standard and interchangeable, can be arranged in series or parallel as required by the duty, and additional sections can be connected at any time to an existing installation.

An important advantage is that it eliminates the necessity of providing 100 per cent spare heating capacity except in installations consisting of only a single unit. This results in a material saving in the initial investment. Another important advantage is that individual units can be cut in and out of service at fractional loads better to maintain constant oil temperature.

New Humidifier Is Added to Scott-Newcomb's Line

As an addition to its 1934 line of heating, cooling, and air-conditioning equip-

ment, Scott-Newcomb, Inc., 1942 Pine Street, St. Louis, Mo., announces the S-N humidifier, for use in offices and wherever else it is desired to provide healthful atmospheric conditions. The new unit is of the cabinet type, genuine wood construction with walnut finish. The cabinet is approximately 28 inches high by 24½ inches long by 15 inches deep. The design is one of simple beauty that matches any room arrangement.

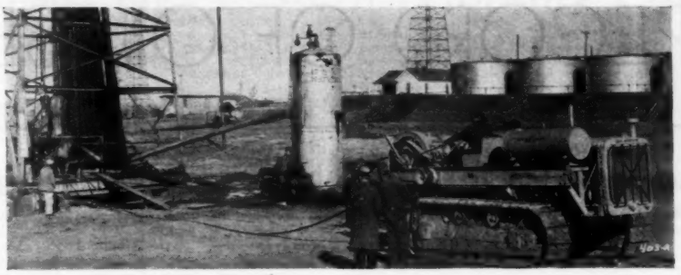
The humidifier will evaporate 6 gallons of water per day and has an evaporating surface of 40 square feet. On a current consumption of 50 watts, it is reported to deliver 16,500 cubic feet of washed and cooled air per hour.

The motor is 110-volt, 60 cycle with rubber belt drive. Two oil caps on motor are the only lubrication required. A drain plug in the reservoir simplifies draining and cleaning.

DARDELET OFFERING HANDBOOK

Dardelet Threadlock Corp., 120 Broadway, New York, has published a Thread Handbook for engineers, designers and mechanics. This 220-page volume contains comprehensive information relative to the Dardelet self-locking screw thread and its use in many industries. One feature of particular interest to production engineers and superintendents is the use of this thread with sucker-rod connections. There are about 45 pages of miscellaneous information on proportions and weights of bolts, nuts and screws, specifications for steel and other data. Copies may be obtained from the company without cost.

Cardwell Allsteel Model ZD-75 Has New Features



The illustration shows a Cardwell Allsteel model ZD-75 mounted on a "Caterpillar" Seventy-five Diesel tractor. Both tractor and winch are new and they exemplify modern engineering practice and simplicity of design applied to oil well servicing equipment by the Allsteel Products Manufacturing Co. of Wichita, Kans.

Features of the company's 1933 model winches include the fact that the drum holds a maximum of 7,800 feet of seven-eighths inch wire line. The brakes are of the patented wedge-action type. The bands, readily removed in a few minutes for cleaning, are lined with seven-eighths inch special Gatke brake blocks, and the brake flanges are of alloy iron, fast in heat dissipation, hard for resisting wear, tough for tensile strength, but still retain the coefficient of friction ordinarily found in cast iron. There is only one adjustment on the brakes.

The drum is mounted in Timken bearings, adjustable from the outside of the drum and lubricated by a bath of oil from the inside. This drum is of the free-spinning type and the power is transmitted through heavy duty eight-speed transmission, with patented antifriction bearing intake and output mechanism, reducing to a minimum maintenance cost.

This unit is perfectly balanced on the tractor and through the employment of a simple design, more than 100 parts have been eliminated.

Through engineering research made by the Allsteel Products Manufacturing Co. during the last few years its units have been increased in efficiency, reduced in weight and made applicable for almost any oil well servicing job, as well as rotary drilling, fishing jobs, casing pulling, etc.

New Meter Design Features Cartridge-Sealed Elements

The flow meters made by the Republic Flow Meters Co., Chicago, have been redesigned and new engineering features are embodied in the method of assembling the actuating elements in the various reading instruments. The new design is built around the cartridge sealed element, which consists of the actuating unit designed and built to fit into a metal cartridge, forming a compact, sturdy element ready for mounting on the instrument panel. There are three types of reading instruments, the indicator, the

recorder and the integrator, each with its actuating mechanism mounted in a separate cartridge sealed element, which is interchangeable and may be easily removed from the back of the panel. The metal cartridges protect the elements from dirt, moisture and abuse.

This new principle of mounting each actuating unit as a separate element simplifies the entire meter assembly. The simplification has been carried through the entire line of Republic reading instruments, including the two and three-pen multiple recorders which combine records of flow, pressures, temperatures, etc., on one chart.

The pen adjustment is accessible from the front of the instrument, the pen is automatically lifted from the chart when the chart knob is unscrewed and the chart knob is part of the pen release assembly and is always held in position. The accuracy of the integrator is not dependent on, nor affected by, the clock mechanism and operates independently of other reading instruments.

A new boiler horsepower indicator has been introduced, known as the "CS-24" indicator. It has a 24-inch porcelain enamel dial with large white figures on a black enameled field, so that it may be easily read from a distance.

PRODUCT FOR TREATING WATER

D. W. Haering & Co., Inc., 3408 Monroe Street, Chicago, water consultants, announce production of H-O-H series D formulae, a highly concentrated semisolid organic product for feed and hot water treatments. H-O-H series D formulae were developed in response to the demand for a potent water treatment which could be shipped economically and would offer the chemical action of previous H-O-H treatments. H-O-H series D formulae consist of beta glucoside and sodium glucosate. These formulae all conbine directly with oxygen to form stable compounds and form colloidal gels with calcium and magnesium thus preventing scale formation. H-O-H series D treatments are available in several forms including sodium phospho glucosate and sodium ferro glucosate formulae.

HOMCO OPENS LOUISIANA STORE

The Houston Oil Field Material Co. has opened a new store in Houma, La., better to serve its trade in the eastern part of the Gulf Coast territory. W. B. Stallings has been moved from Houston to Houma as district manager in the new territory, and Joe Teuton, formerly with the Texas Corp., has joined the company as Houma store man. Other personnel changes made by the organization recently include the transfer of Carroll Graham from East Texas to Lake Charles as branch manager, and the transfer of Frank Logan from the Houston territory to Kilgore, succeeding Mr. Graham H. J. Moon, formerly store man in the Lake Charles store, has been moved to the Houston store to assist G. W. Hunt.

GETS TURBO-BLOWER BUSINESS

The Ingersoll-Rand Co. has acquired the turbo-blower business of the General Electric Co. and will consolidate it with its own turbo-blower department. This places Ingersoll-Rand in position to meet demands for blowers and centrifugal type compressors for the broadest variety of uses.

Two New Methods of Tube Fastening Are Developed

Many engineers, when faced with the problem of internal repair or inspection of surface condenser, cooler and heater tubes, have wished for a method of tube fastening other than mechanical rolling of tubes into tube sheets.

The Crane Packing Co., 1800 Cuyler Avenue, Chicago, has developed two new methods of tube fastening at the inlet end of tubes, which have the advantage of firmly fixing the tube, allowing expansion to take place entirely toward the outlet tube sheet.

In the first method a gasket is inserted into the bottom of the drilling and then a soft Admiralty metal cone is slipped over the tube against the gasket. Next a hard Admiralty metal seat is slipped into the cone. Against the seat is screwed a stream-line ferrule so designed as to come flush with the tube sheet.

An alternative method consists of the gasket, cone and a special ferrule so beveled that it replaces the seat and the ferrule previously described.

The ferrule applies a pressure against the seat, compressing the soft cone radially against the diameter of the tube, and is said to give a perfect mechanical seal without even measurable deformation of an 18-gauge tube.

By the use of these methods in combination with John Crane metallic condenser packing for the outlet end, it is possible for the operator to remove tubes from the condenser simply by removing the ferrule, drifting the tube through the outlet packing and removing the tube from the inlet end. The fitting parts are interchangeable and may be reused and, by careful drifting of the tube through the packing at the outlet end, it is possible to slide the tube back and caulk the packing home so that the unit can be put on the line again without leakage.

Wear Absorbed by Rubbers in the MacClatchie Piston

Following five years of development work and field tests the MacClatchie

Manufacturing Co., Compton, Calif., has placed on the market the MacClatchie Wearever piston. Over 30 different models of pistons were made in perfecting it.

The manufacturers assert this piston is designed so that all wear is absorbed by the rubbers, which are easily and inexpensively replaced, giving the operator a virtually new piston. The bodies are machined from drop-forged steel and the rubbers are carefully compounded in the manufacturer's own rubber plant.

Marshall Adams, formerly sales promotion manager of the merchandising department of the Westinghouse Electric & Manufacturing Co., has been appointed sales promotion manager for the American Radiator Co.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended Feb. 24 Sales	Week ended Feb. 24 High	Week ended Feb. 24 Low	Week ended Feb. 24 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
50⅜	41½	3,600	50	47⅝	47¾	Amerada Corp.	774,875	N.P.	50cQ	1-31-34	47⅝	18½	22¾	12	23	11¼
35¼	28¼	14,900	34⅞	31⅝	31¾	Atlantic Refining	2,673,834	$25	25cQ	3-15-34	32½	12⅜	21⅞	8⅝	23⅝	8⅝
10	7¾	11,300	9¾	8⅝	8⅝	Barnsdall Corp.	2,186,385	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	11⅛	53,000	17½	15½	15½	Columbia Gas & Elec.	11,610,036	N.P.	12½cQ†	2-15-34	28⅛	9	21	4¼	45⅝	11⅝
14¼	9¾	51,300	14¼	13	13	Consolidated Oil Corp.	14,218,835	N.P.	28c	4- 7-34	15¾	5	9	4	15⅞	4⅛
20¾	16½	32,300	20⅜	18¾	18⅞	Continental Oil of Delaware	4,738,593	$5	....	.....	19⅝	4⅞	9⅜	3⅝	12	5
21¾	15⅛	3,800	21½	18⅞	18⅞	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅝
5½	4½	2,900	5¼	4⅝	4⅝	Houston Oil (new)	1,098,618	$25	....	10-17-30	7⅜	1⅞	5⅜	1½	14⅛	3
2¾	1¾	2,000	2⅜	2	2¼	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14¾	11⅝	6,300	14¼	13⅛	13⅜	Mid-Continent Petroleum	1,857,912	N.P.	....	2-16-31	16	3¾	8⅞	3¾	16¾	5
18¾	11½	3,300	18⅜	16⅛	16⅛	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	70¼	5
15⅞	12⅝	21,200	15⅛	14⅛	14⅛	Ohio Oil Co.	6,563,107	N.P.	....	12-15-32	17⅝	4¾	11	5	19½	5⅛
8¼	6⅞	500	7⅝	7½	7½	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅞
2⅜	1¼	200	1⅞	1¾	1¾	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅜	1¼	¼	4¼	⅝
18¾	15⅛	27,300	18¼	16⅝	16⅝	Phillips Petroleum	4,155,113	N.P.	25c	2-15-34	18¾	4¾	8⅛	2	16⅝	4
16¾	12⅝	13,300	16⅛	14⅝	14⅝	Plymouth Oil Co.	990,261	$5	25cQ	3-31-34	17⅝	6¾	12½	6	19	6
14⅞	10⅛	40,800	14⅞	12¾	12¾	Pure Oil	3,038,370	N.P.	....	9- 1-30	15⅜	2½	6½	2⅞	11⅞	3¼
39⅛	36	600	39⅛	39⅞	39⅞	Royal Dutch N. Y. shares	432,224	$14	$1.07½	8-14-33	39¾	17⅝	23¾	12⅛	42⅝	13
36	25⅝	17,400	36	32¾	34⅝	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ§	3-15-34	43⅜	15	20⅜	6⅝	20¾	5½
11½	7⅝	36,400	11⅜	10⅝	11	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8¾	2½	10¼	2½
89	58	3,500	86½	83	84	Shell Union Oil pfd.	400,000	$100	....	7- 1-31	61	28½	65¼	18	78	15
11¼	9	800	10¾	10⅛	10⅛	Simms Petroleum	461,000	$10	25c	1-17-34	12⅜	4⅞	7½	3¼	11	3½
11½	7⅞	2,500	10⅞	10	10⅛	Skelly Oil	1,008,514	$25	....	12-15-30	9⅞	3	5¾	2½	12⅞	2
19⅞	15⅛	37,300	18⅝	16⅞	17	Socony-Vacuum	31,019,694	$25	15c	3-15-34	17	6	12¼	5¼	21	8⅜
42⅞	37½	14,300	42¾	39¾	40	Standard Oil of California	13,102,900	N.P.	25c	3-15-34	45	19½	31⅞	15⅛	51¾	23⅛
38	34	1,200	35½	33¾	35½	Standard Oil of Kansas	200,000	$10	50cQ	4-30-34	39⅞	12¾	16½	7	19	7¾
50½	44¼	31,600	49⅞	47¼	47¼	Standard Oil of New Jersey	25,740,965	$25	50cSA	12-15-33	47½	22¾	37⅜	19⅞	52½	26
61½	51½	1,400	61½	58⅞	58⅞	Sun Oil	1,591,110	N.P.	25cQ	3-15-34	59	35	39⅞	24⅜	45¼	26¾
29⅜	23⅛	18,400	29	26⅞	26⅞	Texas Corp.	9,486,417	$25	25cQ	4- 1-34	30⅛	10⅜	18¼	9¼	36¼	9⅞
4½	3⅛	2,800	4⅜	4	4	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅜	4	1½	6½	1⅞
11⅜	8½	17,700	11⅜	10⅝	10⅝	Tide Water Associated	5,613,800	N.P.	....	2-16-31	11¾	3⅛	5⅝	2	9	2⅛
73⅝	64½	1,500	73⅝	71⅝	73	Tide Water Associated pfd.	666,524	$100	$1.50Q	12-23-33	65¼	23½	60	20	68	20½
20½	18¼	3,100	19⅝	18⅜	18⅜	Union Oil of California	4,386,070	$25	25cQ	2-10-34	23⅜	8½	15⅜	8	26⅝	11
21	15⅝	2,000	20	18½	19½	Union Tank Car	1,200,000	N.P.	30cQ	3- 1-34	22¾	10½	19¼	11¾	25⅛	16
5⅛	3⅝	1,900	5	4¾	4¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅝	2¾

*Ex-dividend. †Payable in 5 per cent convertible preferred stock. ‡Initial dividend. §Plus extras.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended Feb. 24 Sales	Week ended Feb. 24 High	Week ended Feb. 24 Low	Week ended Feb. 24 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
37¾	32	250	37¾	37½	37¾	Buckeye Pipe Line Co.	200,000	$50	75cQ	3-15-34	39¾	25	35	17½	56	30
4	2⅞	4,100	3⅝	2⅞	3	Carib Syndicate	579,000	25c	....	.....	7⅜	¼	⅝	¼	2⅜	¼
126	118½	No sales	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1Q†	3-30-34	129	71	90	53	129½	75
4¼	1¾	35,100	3¾	3⅛	3¼	Cities Service	37,804,394	N.P.	....	6- 1-32	6¼	1½	6⅞	1¼	20¾	5
3¼	2½	2,400	2⅞	2⅝	2⅝	Colon Oil	2,200,000	N.P.	....	.....	4	¼	1¼	¼	3½	¼
3⅞	1⅝	1,900	3½	2¾	3	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅞	¼	3¾	⅜
13	9⅜	19,600	12¼	11½	11½	Creole Petroleum	6,974,356	$5	....	.....	12	4¾	3⅛	1¾	3⅞	1⅝
7½	4¾	600	6¼	6⅛	6⅛	Darby Petroleum	509,696	$5	25c	2-15-34	8	2⅛	7⅛	1⅝	2½	1⅜
2¼	1⅝	300	2⅞	2⅛	2⅛	Derby Oil & Refining	263,162	N.P.	....	.....	2¾	⅞	3	1	6	1½
35¾	31	400	35	31	31	Eureka Pipe Line	50,000	$100	$1Q	2- 1-34	41¾	20	35	18	36	19
76¾	58½	3,700	74	70	70	Gulf Oil Corp.	4,538,101	$25	....	10- 1-31	62	24	44¾	23	75½	25⅜
43½	33½	11,000	43½	40¾	40⅞	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	4- 1-34	105½	40	55	35⅝	72	44½
14½	12⅝	5,100	14½	13⅝	13⅝	Imperial Oil of Canada	26,742,792	N.P.	12½c‡	3- 1-34	15⅞	6½	10⅞	6¼	18¼	7⅜
6⅞	4⅝	100	6¾	6¾	6¾	Indiana Pipe Line	300,000	$10	15cSA†	11-15-33	8	3⅛	7½	2¾	21½	5½
23¾	19⅜	6,900	23¼	21¾	21¾	International Petroleum	14,247,088	N.P.	28cQ‡	3-15-34	23½	8⅜	12¼	8	15½	7⅜
3⅛	2⅛	1,600	2¾	2⅝	2⅝	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	⅛	2½	½	2	½
5⅞	4¾	200	4¾	4¾	4¾	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¾	3½	⅞	6¾	1½
8⅜	5¾	800	7⅝	6¾	6¾	Lone Star Gas	5,382,723	N.P.	16cQ§	3-31-34	11⅞	4¾	11	3⅜	29	5½
5⅜	4	600	5	4¾	4¾	Mountain Producers	1,682,182	$10	15cQ	1- 2-34	6½	2½	4¾	2⅛	5⅞	2
15¼	14	800	15	14⅜	14⅜	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-34	20	10	14⅝	8	26½	9¾
9½	8	300	9½	9¼	9¼	National Transit	509,000	$12.50	40cSA	12-15-33	10	5½	10½	6	17½	5
2⅛	1¾	200	2	1⅞	1⅞	New Bradford Oil	1,445,202	$5	10c	3-15-34	2⅛	½	⅞	¼	1½	½
1⅜	1	200	1¼	1⅛	1¼	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	¾
4½	3	100	4½	4½	4½	New York Transit	100,000	$5	15cSA	10-14-33	4⅞	3	9¾	7½	14½	5⅞
7	4⅝	No sales	..	..	..	Northern Pipe Line	120,000	$10	25cSA	1- 2-34	6⅛	4¼	5½	3½	35½	20
1⅞	⅞	8,000	1⅝	1⅜	1½	Pantepec Oil	1,608,700	N.P.	....	.....	3¾	⅛	⅝	1/32	2	⅜
3	1¼	800	2⅝	2⅜	2⅜	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅝	2⅛	⅝	3	¾
7¼	5¾	1,300	7	6⅝	6⅞	Salt Creek Producers	1,496,859	$10	20cQ	2- 1-34	9¼	3½	5½	2⅞	7⅝	2¾
23⅞	17½	3,100	22¼	20½	21¾	South Penn Oil	1,200,000	$25	25cQ	12-30-33	22⅛	11	16½	9⅝	23⅞	9¼
4¾	4	500	5½	4¼	5¼	Southern Pipe Line	100,000	$10	10cSA	3- 1-34	6	2⅛	10	3¾	17	7
47	41	100	47	44	47	Southwest Penna. Pipe Lines	35,000	$50	$1Q	12-27-33	43	24½	37	27	42½	25
32¾	30⅝	22,000	31⅝	30⅝	30¾	Standard Oil of Indiana	15,941,894	$25	25cQ	3-15-34	34	17	25⅛	13⅛	38½	13½
17⅝	14⅝	4,300	17⅜	16¾	16¾	Standard Oil of Kentucky	2,606,983	$10	25cQ	12-15-33	19¼	8⅜	15⅞	8⅞	23⅝	12⅛
16⅝	13½	400	16	15½	16	Standard Oil of Nebraska	190,822	$25	25cQ	3-20-34	20½	11	19	10¼	38½	16
27½	23¼	450	26	25¼	25½	Standard Oil of Ohio	753,740	$25	....	1- 3-33	41	15½	30⅛	15½	62½	23
2	1/32	9,400	2	1¾	1⅞	Sunray Oil	1,162,840	$5	....	4-15-31	1½	¼	⅝	⅛	5¼	¼
11	6¼	3,700	10¼	9	9	Texon Oil & Land	936,028	N.P.	15c	3-31-34	13¾	6¼	10½	4½	12⅞	2½

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Oklahoma-Kansas and Eastern Monthly Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR DECEMBER

Runs

Company—	Month (bbls.)	Dly. av. (bbls.)
Gulf P. L. Co.	1,194,433	38,530
Texas P. L. Co.	643,051	20,744
Empire P. L. Co.	1,969,879	63,545
Cosden P. L. Co.	745,430	24,046
Stanolind P. L. Co.	2,487,750	80,250
Oklahoma P. L. Co.	2,637,699	85,087
Other lines	8,612,637	277,827
Total December	18,290,879	590,029
Total November	17,963,430	598,781
Difference	327,449	8,752

Shipments

Gulf P. L. Co.	1,183,508	38,178
Texas P. L. Co.	756,650	24,408
Empire P. L. Co.	1,835,052	59,195
Cosden P. L. Co.	658,576	21,244
Stanolind P. L. Co.	3,808,660	122,860
Oklahoma P. L. Co.	2,545,131	82,101
Other lines	8,122,000	262,000
Total December	18,909,577	609,986
Total November	18,125,280	604,176
Difference	684,297	5,810

Stocks

Sinclair Prairie Oil Mktg. Co.*	31,100,000
Gulf P. L. and Gypsy Oil Co.	7,482,918
Texas Co.	5,346,814
Empire P. L. Co.	5,643,412
Mid-Continent Pet. Corp.	2,513,133
Stanolind Crude Oil Pur. Co.	13,600,000
Oklahoma Pipe Line Co.	1,165,017
Carter Oil Co.	2,599,207
Other lines	29,000,000
Total December	98,450,501
Total November	96,947,510
Difference	1,503,091

*Estimated. Stanolind Pipe Line Co. shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF JANUARY

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for December and January:

	Dec., '33	Jan., '34
Nat. Transit	248,595.53	278,749.97
S. W. Pa. P. L.	67,264.40	75,988.91
Eureka P. L.	259,595.97	273,049.30
Buckeye P. L. (Macksburg)	227,615.69	245,154.06
Buckeye P. L. (Cleveland)	8,841.81	9,246.22
Buckeye P. L. (Lima, etc.)	56,547.64	67,797.83
Stoll Oil Ref.	22,757.64	26,547.00
Bradford Tran.	414,710.68	444,388.14
N. Y. Transit	33,740.46	35,588.40
Tide Water P. L.	21,592.66	23,153.05
Pure Oil	705,520.27	630,500.24
Daugherty Ref.	586.00	586.00
Valvoline Pipe	75,510.20	74,941.32
Other Cos.	268,358.97	297,037.98
Total	2,410,967.28	2,282,728.42
Daily average	73,257.01	73,636.21

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

	Dec., '33	Jan., '34
Nat. Transit	494,085.74	542,763.21
S. W. Pa. P. L.	453,437.68	418,931.64
Eureka P. L.	174,489.25	246,234.08
Buckeye P. L. (Macksburg)	254,820.05	257,703.63
Buckeye P. L. (Cleveland)	1,212.68	1,705.05
Buckeye P. L. (Lima, etc.)	1,149,143.72	1,133,264.10
Indiana P. L.	806,448.92	792,461.30
Bradford Tran.	357,618.31	408,669.69
Southern P. L.	24,723.19	31,421.86
Tuscarora Dev.	349,483.55	239,176.13
N. Y. Transit	119,748.15	185,509.24
Northern P. L.	79,964.94	121,855.53
Tide Water P. L.	311,792.83	415,887.18
Pure Oil	638,573.54	676,360.69
Valvoline P. L.	45,673.75	44,347.39
Other Cos.	194,173.01	201,638.72
Total	5,545,389.31	5,717,929.44
Daily average	178,883.53	184,449.66

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of December and January:

	Dec., '33	Jan., '34
Nat. Transit	364,935.28	368,381.07
S. W. Pa. P. L.	392,076.27	433,315.95
Eureka P. L.	898,113.48	915,898.39
Buckeye P. L. (Macksburg)	260,524.46	255,911.45
Buckeye P. L. (Cleveland)	41,820.28	36,849.02
Buckeye P. L. (Lima, etc.)	2,611,210.72	2,579,372.54
Indiana P. L.	464,104.05	441,369.61
Bradford Tran.	273,754.04	325,421.64
Southern P. L.	149,822.09	110,300.44
Tuscarora	5,845.19	5,533.44
N. Y. Transit	82,589.79	91,784.99
Northern P. L.	168,295.64	197,530.00
Tide Water P. L.	772,338.22	759,485.55
Pure Oil	747,934.27	862,546.51
Valvoline	127,177.39	125,698.65
Other Cos.	105,856.17	106,159.52
Total	7,466,397.34	7,615,558.77
Increase	331,456.43	149,161.43

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of December and January, showing gross stocks of the above fields:

	Dec., '33	Jan., '34
Pennsylvania	2,505,906.61	2,530,257.89
Lima	402,601.31	406,396.17
Kentucky	791.42	.....
Mid-Continent	3,839,358.55	4,281,792.36
Illinois	585,400.46	616,220.06
Michigan	747,934.27	804,725.72
Total	8,081,992.62	8,639,392.20

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1931	1932	1933	1934
January	53,939	53,501	64,493	73,636
February	55,163	55,498	58,140	.....
March	54,331	57,199	59,417	.....
April	54,914	57,348	61,812	.....
May	53,344	59,105	65,755	.....
June	54,110	64,371	67,370	.....
July	50,723	63,402	68,100	.....
August	51,503	67,676	77,537	.....
September	61,345	65,423	83,193	.....
October	65,595	65,960	84,686	.....
November	59,819	60,602	85,391	.....
December	61,835	57,401	73,257	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for past four years:

	1931	1932	1933	1934
January	175,269	186,551	198,996	184,450
February	183,494	169,856	187,928	.....
March	189,508	188,793	183,632	.....
April	191,450	202,036	181,940	.....
May	199,247	201,404	199,671	.....
June	221,155	201,632	211,980	.....
July	211,632	202,859	213,417	.....
August	224,166	187,839	211,123	.....
September	217,537	170,524	212,913	.....
October	210,831	188,504	214,362	.....
November	196,425	189,626	207,433	.....
December	176,241	186,135	178,884	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1932	1933	1934
January	9,023,914	7,608,270	8,027,831
February	8,974,350	7,302,746	.....
March	8,802,192	7,279,843	.....
April	8,908,461	7,212,548	.....
May	8,835,726	7,016,621	.....
June	8,732,724	6,766,038	.....
July	8,176,956	6,713,942	.....
August	8,128,576	6,617,276	.....
September	7,895,421	6,601,134	.....
October	7,421,620	6,852,809	.....
November	7,116,200	7,134,944	.....
December	7,139,420	7,466,397	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, January 31	611,560.76
Runs from wells	431,017.78
Other receipts	24,248.59
Regular deliveries	218,604.53
Other deliveries	183,812.69

The amount of Illinois oil run by the Tide Water Pipe Co. in January was 23,-153.05 bbls. Deliveries were 24,066.23 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1934—		
January	454,170.83	242,670.76
1933—		
January	344,054.84	314,108.93
February	306,520.61	294,340.35
March	385,665.57	314,514.48
April	311,146.72	356,455.50
May	361,901.38	334,420.38
June	420,865.87	350,934.36
July	455,997.46	428,608.53
August	479,798.34	431,176.90
September	457,408.62	376,502.96
October	458,311.88	299,714.00
November	444,598.15	317,891.87
December	409,147.30	251,099.91
1932—		
January	500,177.12	246,634.10
February	482,561.50	186,010.30
March	565,538.70	270,617.75
April	461,920.92	285,817.98
May	521,884.64	279,359.88
June	501,878.26	263,703.70
July	466,635.89	284,537.18
August	476,095.53	307,325.89
September	436,529.00	329,994.39
October	332,680.67	352,620.34
November	346,880.27	338,351.23
December	336,072.57	317,749.63

Tide Water Pipe Co., Ltd., also delivered in January, 93,479.32 bbls. Oklahoma oil.

Average Daily Imports of Crude and Refined Oil at Principal United States Ports

Average barrels per day in 1933-34—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
February	7,682	4,789	120,490	12,610	10,822	156,393	.....	.....	.....	.....	2,357	158,750
March	7,710	4,290	101,258	36,292	16,000	165,290	.....	.....	.....	.....	.....	165,290
April	10,000	6,700	73,433	32,267	9,967	132,367	.....	.....	.....	.....	.....	132,367
May	4,258	2,194	62,484	22,548	3,355	94,839	.....	.....	.....	.....	4,355	99,194
June	4,833	.....	46,967	29,967	6,232	87,000	.....	.....	.....	.....	.....	87,000
July	10,645	2,452	91,258	33,161	2,968	140,484	.....	.....	.....	.....	8,194	148,678
August	12,774	2,452	112,193	33,484	6,742	168,645	.....	.....	.....	.....	2,161	170,806
September	7,667	.....	51,733	27,733	3,267	90,400	.....	.....	.....	.....	.....	90,400
October	7,613	1,516	60,581	23,967	.....	93,677	.....	.....	.....	.....	1,452	95,129
November	11,533	1,900	71,700	14,534	2,600	102,267	.....	.....	.....	.....	1,966	104,233
December	8,871	.....	77,258	29,161	7,677	122,968	.....	.....	.....	.....	6,418	129,387
January	11,387	.....	71,548	27,323	4,452	114,710	.....	.....	.....	.....	2,193	116,903

Average Daily Receipts of California Crude and Refined Oil at Atlantic and Gulf Ports

Average barrels per day in 1933-34—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
February	9,106	1,643	14,250	10,965	11,500	47,464	.....	.....	.....	.....	2,643	50,107
March	5,065	.....	16,516	9,968	13,935	45,484	.....	.....	.....	.....	7,484	52,968
April	6,000	.....	14,500	7,733	4,934	33,167	.....	.....	.....	.....	4,900	38,067
May	4,194	.....	15,255	14,293	5,871	39,613	.....	.....	.....	.....	4,452	44,065
June	1,267	.....	5,300	11,767	7,667	26,000	.....	.....	.....	.....	4,938	30,933
July	3,773	.....	17,323	24,097	15,194	60,387	.....	.....	.....	.....	.....	60,387
August	2,484	1,742	12,065	15,032	7,129	38,452	.....	.....	.....	.....	.....	38,452
September	3,433	1,600	14,233	11,633	10,400	41,300	.....	.....	.....	.....	1,300	42,600
October	1,806	3,387	26,516	7,484	22,129	61,323	.....	.....	.....	.....	.....	61,323
November	11,666	8,067	33,830	10,803	23,067	87,433	.....	.....	.....	.....	.....	87,433
December	3,032	10,419	41,194	7,419	25,710	87,774	.....	.....	.....	.....	6,032	92,806
January	2,806	12,839	28,516	5,323	29,871	80,356	.....	.....	.....	.....	.....	80,356

Gross Production of Crude Oil in the United States for 12 Months

(In barrels of 42 gallons)

1933—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
January:	Month	14,460,282	12,575,332	26,115,932	2,871,282	993,457	2,021,117	2,241,610	3,112,000	64,391,012
	Daily average	466,461	405,672	842,449	92,622	32,047	65,197	72,310	100,387	2,077,145
February:	Month	13,107,043	12,592,132	25,092,282	2,801,512	880,208	1,793,443	2,096,612	2,747,000	61,110,332
	Daily average	468,109	449,719	896,156	100,054	31,436	64,052	74,879	98,111	2,182,512
March:	Month	13,414,980	15,479,726	34,242,444	3,804,539	943,702	2,070,695	2,371,469	3,118,000	75,245,555
	Daily average	432,741	499,556	1,104,596	116,276	30,442	66,797	76,499	100,381	2,427,276
April:	Month	14,262,943	11,746,170	27,306,582	3,492,990	909,120	2,156,736	2,209,470	3,017,000	65,101,011
	Daily average	475,431	391,539	910,219	116,433	30,304	71,893	73,649	100,567	2,170,034
May:	Month	14,817,633	13,552,797	49,151,776	3,277,103	928,667	2,116,296	2,294,558	3,177,000	89,315,830
	Daily average	477,988	437,187	1,585,141	105,713	29,957	68,268	74,018	102,161	2,881,156
June:	Month	14,344,654	14,360,910	39,907,737	3,210,150	901,770	2,009,831	2,239,650	3,191,000	80,165,702
	Daily average	478,155	478,697	1,330,258	107,035	30,059	66,994	74,655	106,367	2,672,190
July:	Month	15,140,328	18,406,374	39,031,468	4,068,130	946,926	2,143,314	2,421,720	3,474,000	85,632,760
	Daily average	488,414	593,754	1,259,080	131,230	30,546	69,139	78,120	112,065	2,762,347
August:	Month	15,536,841	18,808,382	37,683,671	3,908,294	971,292	2,281,151	2,436,883	3,850,000	85,476,514
	Daily average	501,188	606,722	1,215,602	126,074	31,332	73,582	78,577	124,194	2,757,307
September:	Month	14,673,846	16,603,890	33,511,172	3,729,000	953,580	2,247,451	2,427,960	3,890,000	78,036,899
	Daily average	489,129	553,463	1,117,039	124,300	31,786	74,915	80,932	129,667	2,601,230
October:	Month	14,665,011	15,031,032	32,914,578	3,287,543	1,017,885	2,316,000	2,500,615	4,090,000	75,822,764
	Daily average	473,065	484,872	1,061,761	106,053	32,835	74,710	80,665	131,936	.....
November:	Month	13,933,559	14,364,030	27,986,117	3,599,400	986,910	2,235,810	2,434,920	3,827,000	69,367,746
	Daily average	464,452	478,801	932,871	119,980	32,897	74,526	81,164	127,567	2,312,258
December:	Month	14,767,800	14,835,174	28,864,592	3,455,725	1,016,118	2,237,811	2,494,477	3,935,000	71,606,697
	Daily average	476,381	478,554	931,116	111,475	32,778	72,189	80,467	126,799	2,309,893
	Total 12 months	173,125,420	178,356,449	401,808,452	41,305,768	11,449,635	25,629,665	28,169,944	41,428,000	901,373,323
	Daily average	474,316	488,648	1,100,845	113,166	31,369	70,218	77,169	113,200	2,469,242

I.T.I.O. IN SAN ANTONIO

SAN ANGELO, Tex., Feb. 24.—Land and geological headquarters for the Indian Territory Illuminating Oil Co. in Texas and New Mexico will be established in San Antonio about March 1 with the transfer of C. L. Mohr, geologist, and J. W. Rettig, land man, from San Angelo to the Alamo City. Both will be in San Antonio next week to obtain office space.

F. H. JOHNSON DIES

FORT WORTH, Tex., Feb. 24.—Floyd H. Johnson, 58, independent operator of Wichita Falls, died in that city February 23 after a several months' illness.

Wildcat Operations in Gulf Coast

(Continued from Page 56)

Sun Oil Co.'s No. 19 J. Wilburn, 220 ft. E of W line, 343 ft. S of N line, Wm. Hodges Sur. ..... Abnd.

Sun Oil Co.'s No. 21 J. Wilburn, Wm. Hodges Sur., 50 ft. N of No. 20 ..... Drlg. rock 399 ft.

Sun Oil Co.'s No. 20 J. Wilburn, Wm. Hodges Sur., 60 ft. E of W line, 343 ft. S of N line ..... Cavity 980 ft.; abd.

Sun Oil Co.'s No. 4 Higgins, Wm. Hodges Sur., 100 ft. W of No. 2 ..... Drlg. rock 1,173 ft.

Superior Oil Corp.'s No. 3-A Barber (W.O.), Henry Griffith League ..... Cut 7-in. O.D. csg. at 3,014 ft.; sidetracking 3,027 ft.

Texas Gulf Prod. Co.'s No. 12-B Kirby, Henry Griffith League, 80 ft. S of N line and direct offset of Texas Gulf's No. 2 J. M. Fitzgerald ..... Top salt 1,375 ft.; drlg. salt at 1,467 ft.

Texas Gulf Prod. Co.'s No. 8-H Kirby, 333 ft. W of No. 8-H, 70 ft. N of S line, Henry Griffith League (W.O.) ..... T.D. 5,024 ft.; sidetracked at 3,179-5,022 ft.; P.B. 3,950 ft.; drlg. shale and lime 4,303 ft.

Texas Gulf Prod. Co.'s No. 4 Wilburn, Wm. Hodges Sur., 330 ft. N of S line, 50 ft. W of E line ..... Drlg. lime 3,298 ft.

Yount Lee Oil Co.'s No. 23 Chambers County, Wm. Bloodgood Sur., 116.9 ft. S of N line and 247 ft. W of E line ..... T.D. 1,387 ft.; hard rock; running 13⅜-in. liner.

Yount Lee Oil Co.'s No. 7 Phillips, offset Sun Oil Co.'s No. 18 Wilburn ..... T.D. 3,538 ft. shale; fishing drill pipe.

Yount Lee Oil Co.'s No. 8 Phillips, Wm. Hodges Sur. .. Derrick.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 38 Moore, James Frazier Sur., 380 ft. E, 100 ft. S of No. 31 ..... Drlg. sand and shale 4,151 ft.

RABBS RIDGE—FORT BEND COUNTY

Humble O. & R. Co.'s No. 22-B Lockwood & Sharp, J. Rabb Sur. ..... T.D. 5,263 ft.; comp. 42 bbls. hr. through ⅝-in. choke.

Humble Oil & Ref. Co.'s No. 23-B Lockwood & Sharp, J. Rabb Sur., 1,162 ft. W of No. 22 ..... Rigging up.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 4 Broussard & Orme, M. Dunman Sur., 129 ft. SW of No. 3 ..... Drlg. shale 3,035 ft.

Yount Lee Oil Co.'s No. 39 Cade, N. Fitzsimmons Sur., 1,000 ft. from W line, 580 ft. from S line of lease. .. No report.

Yount Lee Oil Co.'s No. 3-B Cade, 170 ft. from N line, 100 ft. from E line of 40-ac. lease, N. Fitzsimmons Sur. ..... Drlg. hard sand 4,280 ft.

Yount Lee Oil Co.'s No. 2 Mathis, M. Dunman Sur., direct offset No. 1 Spencer ..... Rigging up.

Yount Lee Oil Co.'s No. 31 Smith, M. Dunman Sur., 360 ft. from W line, 1,485 ft. from N line of lease. .. No report.

ARRIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 6 Arriola fee, 2,150 ft. S of N line, 5,050 ft. E of W line of lease, Arriola Sur. ..... T.D. 5,004 ft.; P.B. 4,730 ft.; cmtd. 7-in. csg. at 4,705 ft.; flowing 55 bbls. pipe line oil daily.; comp.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 2 Hooks, W. Doncho Sur., 330 ft. E of CWL, Blk. 24 ..... T.D. 4,411 ft.; S.D.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 106 Jordit ..... Sand 955-982 ft.; 120 ft. fluid 24 hrs.; to deepen.

Seismo Oil Co.'s No. 1 Casewell, 940 ft. S of NW cor. and 690 ft. from E line, H.B.B.&C. Sur. ..... T.D. 3,210 ft.; recovered 30 ft. drill stem; fishing.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Sour Lake Bank, H.&T.C. Sur., NW cor. Blk. 11, Sec. 49 ..... Temp. abd.; T.D. 4,990 ft.

GOOSE CREEK—HARRIS COUNTY

H. J. DeArman's No. 1 G. Adey, Wm. Scott Sur., 505 ft. from W line, 130 ft. from S line of lease. ..... T.D. 5,301 ft.; P.B. to 4,250 ft.; rigging up to pump.

Gulf Prod. Co.'s No. 12 Tabbs fee, Wm. Scott Sur. ... Drlg. shale and lime 3,782 ft.

Humble O. & R. Co.'s No. 79 Simms-Smith, Wm. Scott Sur., 50 ft. from N line, 150 ft. from W line of most southerly NW cor. ..... W.O.C. 737 ft.

Sun Oil Co.'s No. 9 Wright, Wm. Scott Sur., 50 ft. from N line, 50 ft. from E line of lease ..... Drlg. hard shale and lime 3,434 ft.

HUMBLE—HARRIS COUNTY

Texas Co.'s No. 47 Stevenson, J. B. Stevenson Sur., 859 ft. E, 457 ft. S of NW cor. Lot 1-A ..... Drlg. gumbo and lime 1,811 ft.

MYKAWA—HARRIS COUNTY

Framer O. & G. Corp.'s No. 1 Minnetex Subd., Minnetex Subd., Wm. Lovett Sur. ..... Gas sand 3,763 ft.; cmtd. 7-in. csg. at 3,763 ft.; drlg. plug.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 15-A Settegast (W.O.), J. Kopman Sur. ..... T.D. 4,475 ft.; sidetracked 4,222 ft. to sand 4,298-4,346 ft.; tested S.W.; abd.

Rio Bravo Oil Co.'s No. 26-A Settegast, J. Kopman Sur. No. 44, 1,210 ft. N line, 750 ft. E line of "A" lease ..... T.D. 5,343 ft.; sidetracked 4,250 ft.; drlg. 5,154 ft. shale.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp. and Stanolind O. & G. Co.'s No. 2 Fletcher, Joseph House Sur., 163 ft. from W line, 500 ft. from S line ..... Coring shale 5,555 ft.

Amerada Pet. Corp. and Stanolind O. & G. Co.'s No. 2 Nelson, Joseph House Sur. ..... T.D. 5,572 ft.; comp. 20½ bbls. hr., through ½-in. choke, tubing pressure 850 lbs., casing pressure 950 lbs.

Amerada Pet. Corp. and Stanolind O. & G. Co.'s No. 3 Otto Rudel, Joseph House Sur., 463 ft. from N line, 128 ft. from E line of 64-ac. tract ..... Sand and shale showing oil 5,576 ft.; reaming to set csg.

Humble O. & R. Co.'s No. 2 Emil Doege, C. Goodrich Sur., 300 ft. from E line, 466 ft. from S line of 90 acres ..... Derrick.

Humble O. & R. Co.'s No. 1 W. Hoffman, Joseph House Sur., 466 ft. W of E line of W. W. Baker tract and 318 ft. N of S line ..... Oil sand 5,557-77 ft.; comp. 14 bbls. hr. ¼-in. choke.

Humble O. & R. Co.'s No. 1 Phillip Holderith, C. N. Pilot Sur., 466 ft. out of SE cor. of 90 acres. ..... Waiting on cmt.; sand 5,546 ft.

Humble O. & R. Co.'s No. 2 L. B. Moody, J. H. Edwards Sur., 317 ft. S of No. 1 ..... Drlg. shale 4,369 ft.

Humble O. & R. Co.'s No. 1 Gus Petrick, J. N. Hooper Sur. "A" 372, 466 ft. out of NW cor. 160-ac. tract. .. Drlg. hard sand 4,182 ft.

Humble O. & R. Co.'s No. 2 Reid, C. Goodrich Sur., 1,350 ft. from S line, 2,300 ft. from W line of tract. .. Drlg. shale 3,351 ft.

Skelly Oil Co.'s No. 1 Schultz, J. H. Edwards Sur., 456 ft. from S line, 404 ft. from E and W lines ..... Derrick.

Texas Co.'s No. 1 Sam Lewis, C. N. Pillot Sur., 466 ft. N 1 deg. W and 550 ft. N 89 deg. E of SW cor. of lease ..... Drlg. shale and boulders 2,570 ft.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 7 Davis (W.O.), Duncan Sur. .. T.D. 6,873 ft.; P.B. 4,250 ft.; fishing 4,275 ft.

General Crude Oil Co.'s No. 18 Esperson, C. W. Fisher Sur., 400 ft. S of No. 7 (W.O.) ..... T.D. 4,144 ft.; shale; will pump.

HULL—LIBERTY COUNTY

Gulf Prod. Co.'s No. 2-C R. C. Briggs, J. Devore Sur., 242 ft. W line, 50 ft. N line of lease ..... Drlg. shale and lime 3,252 ft.

Gulf Prod. Co.'s No. 95 Phoenix, Jesse Devore Sur. ..... T.D. 4,308 ft.; comp 175 bbls. through ⅝-in. choke.

Gulf Prod. Co.'s No. 96 Phoenix, Jessie DeVore Sur., 97 ft. from S line and 694 ft. from W line ..... Drlg. sand and gravel 318 ft.

Houston Prod. Co.'s No. 5 Orgain, Jesse Devore Sur., 100 ft. S of No. 4 ..... Derrick.

Houston Prod. Co.'s No. 6 Orgain, Jesse Devore Sur., 250 ft. S of No. 4 ..... T.D. 4,302 ft.; W.O.C.

Humble Oil & Ref. Co.'s No. 36 Guedry, N offset to Sun's No. 3-A ..... T.D. 533 ft.; W.O.C.

Humble Oil & Ref. Co.'s No. 14 Hooks-Spell, N offset to Yount Lee's No. 8 ..... Drlg. shale 3,045 ft.

Liberty-Hull Oil Co.'s No. 2 McAlister, Jesse Devore Sur., 130 ft. from N line in center of lease E and W. T.D. 3,620 ft.; shale; running csg.

Miramar Oil Corp.'s No. 3-B Phoenix, Jesse Devore Sur., 50 ft. from N line, 250 ft. from W line of lease ..... T.D. 5,293 ft.; sand, salt water; P.B. 5,143 ft.

Sun Oil Co.'s No. 3-A Carr, Jesse Devore Sur., 196 ft. W of No. 2-A Carr ..... Set screen; T.D. 4,731 ft.

Republic Prod. Co.'s No. 150 Dolbear, J. Devore Sur., 250 ft. E of No. 81 ..... T.D. 5,110 ft.; salt; abnd.

Texas Co.'s No. 6 Barrow fee, 333 ft. S. 150 ft. W from NE cor. of tract, Jesse Devore Sur. ..... Drlg. shale 1,002 ft.

Yount Lee Oil Co.'s No. 7 Hooks Spell, Jesse Devore Sur., 100 ft. E of No. 5 ..... Drlg. shale 1,848 ft.

Yount Lee Oil Co.'s No. 8 Hooks fee, Jesse Devore Sur., 150 ft. from NW line, 150 ft. from SW line of 5-ac. lease ..... T.D. 4,619 ft.; comp. 20 bbls. pipe line oil hr., ½-in. choke.

CONROE—MONTGOMERY COUNTY

Adeltex Oil Co.'s No. 2 Liewelen, R. G. Hamlett Sur., 466 ft. N, 159 ft. W, SE cor. lease ..... T.D. 5,211 ft.; P.B. 4,680 ft.; W.O.C.

Bishop Oil Corp.'s No. 2 Rhodes, 466 ft. from W line in center of N and S lines of 25.8 ac. in W. S. Rhodes Sur. ..... Rigging up.

Harrison & Abercrombie's No. 4 Alexander, John McHorse Sur., 356 ft. from E line, 425 ft. from S line of lease ..... Cored sand 5,010-50 ft.; cmtd. 7-in. csg. at 5,010 ft.; W.O.C.

Humble Oil & Ref. Co.'s No. 3 American Natl. Bank, Wilson Strickland Sur., 1,850 ft. from N line and center of E and W lines, E offset to Sur. No. 1 Clark ..... Drlg. shale 3,747 ft.

Humble Oil & Ref. Co.'s No. 12 C. L. Dobbins, Ransom House Sur., 698 ft. SE of No. 9 ..... Drlg. sand 104 ft.

Humble O. & R. Co.'s No. 15 Keystone Mills, A. Steele Sur., 1,096 ft. S of No. 28 and 975 ft. from No. 14. ... Drlg. shale 3,952 ft.

Humble Oil & Ref. Co.'s No. 32 Keystone Mills, 660 ft. W of No. 33 in A. Steele Sur. ..... Drlg. shale 908 ft.

Humble O. & R. Co.'s No. 33 Keystone Mills, A. Steele Sur., 1,200 ft. from E line, 750 ft. from S line of lease ..... T.D. 5,125 ft.; comp. 92 bbls. hr.

Humble O. & R. Co.'s No. 15 Madeley, Ransom House Sur., 978 ft. SW of No. 7 and 869 ft. NE of No. 5. ... T.D. 5,136 ft.; W.O.C.

Humble O. & R. Co.'s No. 16 Madeley, Ransom House Sur. ..... T.D. 5,148 ft.; comp. 69 bbls. hr., ½-in. choke.

Humble Oil & Ref. Co.'s No. 46 Moore, 2,150 ft. E of W lines and 1,300 ft. N of S line of lease in L. Smith Sur. ..... T.D. 972 ft.; W.O.C.

Humble Oil & Ref. Co.'s No. 64-A South Texas, 450 ft. from S and 700 ft. W of No. 6 ..... Drlg. sand and clay 49 ft.

Humble O. & R. Co.'s No. 48 Moore, Lemuel Smith Sur., 933 ft. SW of No. 39 ..... Shale 5,127 ft.; cmtd. csg.

Humble O. & R. Co.'s No. 3 A. Morehead, Trevathan Sur. .. Shale 5,129 ft.; comp. 79 bbls. hr.

Humble O. & R. Co.'s No. 28-A South Tex. Dev. Co., T. C. Howell Sur., 1,450 ft. S line and 9000 ft. W line. T.D. 5,183 ft.; running tubing.

Humble O. & R. Co.'s No. 2-F South Tex. Dev. Co., C. A. West Sur., center of Lots 12 and 13 ..... Drlg. shale 3,131 ft.

Mullendore et al's No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, center of 10-ac. tract ..... T.D. 5,138 ft. sand; W.O.C.

Pine Tree Oil Co.'s No. 1 South Tex. Dev. Co., T.&N. O. Sur. No. 13, 1,600 ft. W line, 810 ft. S line of Sur. .. Shale 5,157 ft.

South Gulf Oil Co.'s No. 2 E. M. Raugh, T.&N.O. Sur. No. 3, 175 ft. E of center of W line of 20-ac. lease. .. T.D. 1,414 ft.; W.O.C.

Sun Oil Co.'s No. 11 Keystone Mills, A. Steele Sur., 1,000 ft. S of No. 10, 871 ft. W of No. 7 ..... Drlg. shale 3,749 ft.

Texas Co.'s No. 23 Moody, Ransom House Sur., 1,332 ft. N. 75° E and S 15° E 162 ft. from lower NW cor. of lease ..... T.D. 5,082 ft.; 7-in. csg. 5,047 ft.; W.O.C.

Tide Water Oil Co.'s No. 3 American Natl. Bank, Wilson Strickland Sur. ..... T.D. 5,066 ft.; comp. 83 bbls. hr., ½-in. choke.

Tide Water Oil Co.'s No. 33-A Lewis, C. B. Stewart Sur., 3,851½ ft. from N line, 1,581½ ft. from E line of lease ..... Set 7-in. csg. 5,037 ft.; W.O.C.

Tide Water Oil Co.'s No. 34-A Lewis, C. B. Stewart Sur., 2,140 ft. from N line, 1,590 ft. from E line of lease ..... Oil sand 5,090-5,104 ft.; running 7-in. csg.

Tide Water Oil Co.'s No. 35-A Lewis, C. B. Stewart Sur., 1,596 ft. W of E line, 4,985 ft. N of S line of lease ..... T.D. 5,068 ft.; preparing to drill plug.

Tide Water Oil Co.'s No. 32-B Lewis, C. B. Stewart Sur., 1,188 ft. W of E line, 1,497 ft. N of S line of lease ..... Set 7-in. O.D. csg. at 5,044 ft.; W.O.C.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 2 Orange Natl. Bank, Jacob Beaumont Sur., 1,538 ft. W and 200 ft. S of NE cor. of lease ... Drlg. 2,024 ft.; gumbo.

Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... Hard lime 5,513 ft.; reaming.

LIVINGSTON—POLK COUNTY

Gist Oil Co.'s No. 1 Kingsbury County Holding Corp., A. Viesca Sur., 150 ft. N at R/A and 193 ft. E along S line of tract ..... Standing 4,242 ft.

Harrison & Abercrombie's No. 3 Carter, Mary C. Swinney Sur., 150 ft. out of NW cor. of lease ..... Gumbo 527 ft.; set 10-in. csg.

Gem Oil Co.'s No. 3 Davis-Holmes, A. Viesca Sur., 1,263 ft. SW line, 1,266 ft. SE line ..... Gumbo 625 ft.; cmtd. 10-in. csg. 610 ft.

GRETA—REFUGIO COUNTY

Atlantic Oil Prod. Co. et al's No. 5-A J. J. O'Brien, 933 ft. E of No. 3-A, 466 ft. S of N line ..... T.D. 5,930 ft.; oil sand; derrick blew down.

Blanco Oil Co.'s No. 4-A J. J. O'Brien, M. J. Ximines Sur., 466 ft. from N line, 910 ft. from E line of 107-ac. lease ..... Set 10-in. csg. 1,315 ft.

Flobocts Oil Corp.'s No. 1 M. C. Bauer, 330 ft. N line, 1,724 ft. from W line, J. M. Ximines Sur. ..... T.D. 4,223 ft.; derrick blew down.

Humble O. & R. Co.'s No. 3 Fannie Heard, 325 ft. E of most northerly NW cor. of lease and 466 ft. S of most northerly line at R/A, N. S. Crunk Sur. .. Derrick blew down.

Humble O. & R. Co.'s No. 2 J. F. B. Heard, J. H. Peoples Sur., 466 ft. S line, 933 ft. E of No. 1.... T.D. 4,392 ft.; sand; washing.
Humble O. & R. Co.'s No. 1 Wilder, 466 ft. S line, 313 ft. E line, J. T. McGrew Sur. ..... Drlg. shale 5,934 ft.
Edwin M. Jones' No. 6-A O'Brien, N. S. Crunk Sur., 1,399 ft. from E line, 466 ft. from S line of tract..... Oil sand 4,389 ft.; cmtd. 7-in. csg. at 4 360 ft.; W.O.C.
Edwin M. Jones' No. 7-A O'Brien, N. S. Crunk Sur. ... Derrick.
Neural Oil Co.'s No. 1 V. E. Heard, 466 ft. N line, 366 ft. W line, M. J. Ximines Sur. ..... T.D. 6,015 ft. shale; cored oil sand 6,003-13 ft.; 4½-in. csg. at 6,002 ft.
Neural Oil Co.'s No. 3 W. Heard, 710 ft. W line, 1,510 ft. N line of lease, M. J. Ximines Sur. ..... T.D. 6,020 ft. shale; D.S. test at 5,93?-58 ft., 6 fourbles salt wtr. and 1 joint mud 6 minutes.
Stanolind Oil & Gas Co.'s No. 4-B O'Brien, Peoples Sur. ..... Rigging up.
United Prod. Co.'s No. 2-A Lambert, E. W. Harper Sur., 466 ft. out of N cor. of lease ..... T.D. 1,211 ft.; cmtd. 13⅜-in. csg. 1,200 ft.
United Production Co.'s No. 7 Lambert, center of N½ of Blk. 4, M. F. Lambert league ..... Derrick.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 8 Janner, J. W. Perry Sur., 300 ft. SE of No. 7, 150 ft. SW of the creek ..... Drlg. shale 1,194 ft.
Sun Oil Co.'s No. 3 Schermer, N. Clay Sur., 330 ft. NW, 330 ft. SW line of lease ..... Coring sandy shale 2,776 ft.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 18 Watkins, 2,515 ft. S, 650 ft. W of NE cor. Sec. 18-12s-12w ..... Set 64-ft. of 20-in. csg.; T.D. 79 ft.

CAMERON MEADOWS—CAMERON PARISH

Burton-Sutton Oil Co.'s No. 3 School Land, 155 ft. N and 2,974 ft. E of SW cor. of Sec. 16-14s-13w ..... Spudding.
Humble O. & R. Co.'s No. 5 Cameron Meadows, 2,260 ft. W, 28 ft. S of NE cor. Sec. 21-14s-14w..... T.D. 3,198 ft.; to try for D.S. test.
Humble O. & R. Co.'s No. 6 Cameron Meadows, 1,866 ft. W, 150 ft. S of NE cor. Sec. 21-14s-13w ..... Drlg. shale 2,700 ft.

EDGERLY—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 Hunter, 210 ft. E, 1,260 ft. N of SW cor. SE Sec. 21-9s-11w ..... Drlg. sandy shale 5,462 ft.
Union Sulphur Co.'s No. 1 La. Prairie Narrone, 1,061 ft. N, 250 ft. W of SW cor. SW Sec. 21-9s-11w..... Drlg. hard shale 2,417 ft.
Yount Lee Oil Co.'s No. 1 Sulphur Mining Co., 150 ft. S, 300 ft. W, NE cor. Sec. 33-9s-11w ..... T.D. 8,410 ft.; dry and abd.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 4 Gay, 2,350 ft. S, 175 ft. E of NE cor. Sec. 52-9s-11e ..... Capping piling.

GARDEN ISLAND—PLAQUEMINES PARISH

Texas Co.'s No. 10 Garden Island ..... T.D. 1,875 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w..... T.D. 4,507 ft.; reaming 2,623 ft.
Pure Oil Co.'s No. 5 Mulvey, 500 ft. from No. 2 Mulvey, in line with Nos. 1 and 2 ..... Cored shale and sandy shale 5,554 ft.

HACKBERRY—CAMERON PARISH

Gulf Ref. Co.'s No. 13-A Irwin ..... Drlg. 3,742 ft.
Pop Oil Co.'s No. 1 Yount Lee, 3,996 ft. W, 100 ft. N of SE cor. Sec. 19-12s-10w ..... To pump 4,182 ft.
Red Kelly Oil Co.'s No. 1 Duhon, 200 ft. S, 500 ft. E, NW cor. Sec. 27-12s-10w ..... Sand 1,979 ft.; S.D.
Texas Co.'s No. 11-B State ..... No report.
Union Sulphur Co.'s No. 1 Barbee est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 12-12s-10w..... Tested S.W. 7,598 ft.; pulling screen.
Union Sulphur Co.'s No. 7 Humble lease, 1,010 ft. N, 661 ft. E of SW cor. Sec. 12-12s-10w ..... T.D. 6,542 ft. in salt; P.B. 5,447 ft.; drlg. 5,639 ft. rock.
Yount Lee Oil Co.'s No. 11 Gulf land, Sec. 14-12s-10w... Rig.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 2 Fontenot, 990 ft. N and 330 ft. E of SW cor. of Sec. 7-9s-6w ..... Drlg. hard shale 6,395 ft.
Barnsdall Oil Co.'s No. 4 Fontenot, 330 ft. N, 330 ft. W out of SE cor. 80-ac. lease, Sec. 7-9s-6w..... To run 10¾-in. csg.; T.D. 1,536 ft.
Magnolia Pet. Co.'s No. 2 James Bowman, 660 ft. W, 330 ft. N of SE cor. NE SW Sec. 12-9s-7w..... Drlg. sand and gravel 728 ft.
Shell Pet. Corp.'s No. 1 Arcoin, 330 ft. out of NW cor. 80-ac. tract, Sec. 7-9s-6w ..... W.O.C.; T.D. 6,945 ft.
Shell Pet. Corp.'s No. 5 A. D. Fontenot, 330 ft. out of SE cor. W¼ SW Sec. 7-9s-6w ..... Coring shale 6,846 ft.
Shell Pet. Corp.'s No. 6 Fontenot, Sec. 7-9s-6w, 990 ft. N, 330 ft. W of SE cor. of lease ..... Drlg. shale 1,063 ft.
Shell Pet. Corp.'s No. 7 Heyd, 660 ft. out of NW cor. of lease, Sec. 13-9s-7w ..... Rigging up.
Shell Pet. Corp.'s No. 3 E. O. Stafford, 330 ft. from N and E lines of W½ NW Sec. 18-9s-6w ..... Set 20-in. pipe at 30 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Housslere-Latrielle, Sec. 47-9s-2w, 300 ft. E of No. 12 ..... No report.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S, 503 ft. W of NW cor. Sec. 30-21s-20 ..... Drlg. anhydrite 2,934 ft.
Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 18 ..... Drlg. lime 6,883 ft.
Texas Co.'s No. 20 State-Lake Barre, 392 ft. northerly from No. 22, Sec. 30-21s-20e ..... Anhydrite 1,368 ft.; no report.
Texas Co.'s No. 27 State-Lake Barre, 4,050 ft. from W line and 2,608 ft. from N line of Sec. 30-21s-20e..... Building derrick.

LEESVILLE—LAFOURCHE PARISH

Rex Drlg. Co.'s No. 1 Williams, 95 ft. W of E line in center N and S of Lot 2, Sec. 26-21s-22e ..... Drlg. shale 1,950 ft.
The Texas Co.'s No. 12 L.L.&E., 3,500 ft. due S and 1,035 ft. due W of NE cor. of Sec. 27-21s-22e ..... Rigging up.
Texas Co.'s No. 11 L.L.&E., 2,921 ft. S, 1,560 ft. W of NE cor. Sec. 27-21s-22e ..... Drlg. sand 625 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 7 Farquaher, 330 ft. S, 174 ft. W of NE cor. SW NE Sec. 8-10s-9w ..... Derrick.
Magnolia Pet. Co.'s No. 11 Bordages, 660 ft. N, 490 ft. W of SE cor. NE NE Sec. 8-10s-9w ..... Set 7-in. csg. at 6,690 ft.; drilled plug and set screen; T.D. 6,697 ft.
Magnolia Pet. Co.'s No. 4-A Watkins fee, 685 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w..... T.D. 7,078 ft.; tried to blow out.
Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec. 36-12s-10w, 2-ac. tract ....Drlg. hard sand and lime 7,589 ft.
Union Sulphur Co.'s No. 2 Moss (W.O.), 350 ft. S, 210 ft. W of NE cor. NW SE ..... Drlg. shale 6,469 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 5 Wilson-Cockran, 600 ft. N, 910 ft. E of No. 2, Sec. 4-6s-5e ..... T.D. 3,773 ft.; cap rock; to plug back.
Texas Co.'s No. 17 Botney Bay, 1,800 ft. S 8 deg. W, 600 ft. N 82 deg. most southern NE 580 deg. tract, Sec. 4-6s-5e ..... Derrick.
Texas Co.'s No. 19 Botney Bay ..... T.D. 3,850 ft.; plugged back to 3,266 ft.
Texas Co.'s No. 1 Perkins, 2,501 ft. S, 1,003 ft. E of NW cor. Sec. 21-6s-5e ..... T.D. 4,592; dry and abnd.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 2 Lacy White Frank, 1,175 ft. N, 1,415 ft. W of SE cor. Sec. 16-10s-4e ..... Drlg. salt 5,755 ft.
Union Sulphur Co.'s No. 15 United Land ..... Drlg. salt 6,100 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 34 Lutcher-Moore, 1,313 ft. N, 400 ft. E of SW cor. Sec. 19-9s-12w ..... Drlg. hard sand 3,261 ft.
Union Sulphur Co.'s No. 4 Industrial Lbr. Co., 2,254 ft. from W, 2,116 ft. from S line, NE cor. Sec. 30-9s12w. Drlg. sandy shale 4,319 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 787 fee, 119 ft. N, 1,632 ft. W of C Sec. 29-9s-10w ..... Preparing to pump 4,921 ft.
Union Sulphur Co.'s No. 788 fee, 602 ft. S, 1,209 ft. W. of C Sec. 29-9s-10w ..... Swabbing; T.D. 5,200 ft.
Union Sulphur Co.'s No. 790 fee, 929 ft. S and 802 ft. W of center of Sec. 29-9s-10w ..... Cmtd. csg. 5,287 ft.
Union Sulphur Co.'s No. 791 fee, 529 ft. N, 907 ft. E of SW cor. Sec. 33-10s-12w ..... Drlg. sticky shale 3,404 ft.
Union Sulphur Co.'s No. 792 fee, 2,103 ft. N, 703 ft. E of C Sec. 9-9s-10w ..... Drlg. rock 2,787 ft.
Union Sulphur Co.'s No. 1 Noble, 1,745 ft. S, 150 ft. W of NE cor. Sec. 30-9s-10w ..... Drlg. sticky shale 1,486 ft.
Union Sulphur Co.'s No. 1 Bernard Ulrich, 75 ft. out of SW cor. Sec. 19-9s-10w ..... Drlg. sandy shale 2,614 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 11, Sec. 12-13-3w..... T.D. 4,523 ft.; 13⅜-in. csg. 4,523 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 8 Wilbert, 717 ft. N 60 deg. 30 min. E from SE of Lot 2 of Fractional Sec. 9, in Sec. 1-11s-12e ..... T.D. 4,564 ft.; D.S. test failed.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 9 Gardner, 572 ft. E, 150 ft. N, of SW cor. SE NE Sec. 33-10s-12w ..... R.U. to pump 3,211 ft.
Gulf Ref. Co.'s No. 72 Gardner-Noble-Gray, 643 ft. E, 50 ft. S of NW cor. NE SE Sec. 33-10s-12w..... Drlg. sand 2,988 ft.
Marrs McLean's No. 16 Gray, 426 ft. N, 658 ft. E of SW cor. Sec. 33-10s-12w ..... Set screen 1,872 ft.; to pump.
Tri-Oil Co.'s No. 1 Matilda Gray, 38 ft. W, 35 ft. N, of SE cor. NE SW NE Sec. 33-9s-12w ..... Spudded.
Wilson Broach Co.'s No. 13 Wilson strip, 50 ft. N and 907 ft. E of SW cor. of Sec. 33-10s-12w ..... Drlg. sand 2,901 ft.
Union Sulphur Co.'s No. 1 Vincent ..... Drlg. heaving shale 6,105 ft.
Wilson Broach's No. 14 Wilson Strip, 50 ft. N, 643 ft. E of SW cor. SE NE Sec. 33-10s-12w..... T.D. 3,228 ft.; preparing to deepen.
Vinton Pet. Co.'s No. 3 Gordon, Sec. 34-10s-12w, 709 ft. from S line, 50 ft. from W line of 2-ac. tract... Drlg. sand and gravel 600 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

R. R. Mitchell's No. 1 H. Schleider, J. F. Fitzgibbons Sur., 300 ft. out NE cor. 96-ac. tract ..... Waiting on derrick.
Tibbets et al's No. 1 Heidman, 4,320 ft. W along N line from NE cor. of A. Larison Sur. in J. Cooper Sur., 410 ft. at right angles north ..... Drlg shale 1,991 ft.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 3-A Hunt, 2,100 ft. from E, 2,000 ft. from S lines of Hunt's 1,000-ac. tract in W. C. Carson Sur. ..... Cmtd. 12-in. csg. at 1,146 ft.; W.O.C.
Danciger O. & R. Co.'s No. 1 L. Williams, 700 ft. NE line, 726 ft. SE line of 180-ac. tract, W. C. Carson Sur. ..... Standing; T.D. 6,872 ft.
Harrison & Abercrombie's No. 1 M. D. Howe, 993 ft. W line, 330 ft. N line, Blk. 13, Thomas Spraggins Sur. ..... Drlg. hard sandy shale 3,861 ft.
Shell Pet. Corp.'s No. 2 Haury (Danbury), H.T.&B. R.R. Sur., 720 ft. SE of No. 1 Blakely-Winston..... Coring brittle shale 5,026 ft.
West Len Oil Co.'s No. 1 Settegast, W. C. D. Hall Sur., 4,700 ft. from SW line, 1,041 ft. from NW line of survey ..... Drlg. shale 4,210 ft.

BRAZOS COUNTY

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isaac Curil Sur. ..... Cmtd. surface csg. 30 ft.
Liner et al's No. 1 Peters, 300 ft. SE line, 300 ft. SW line of E. V. Peter fee, G. Powell Sur. ..... Derrick.
F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line ..... T.D. 1,487 ft.; gas sand 1,393-1,420 ft.; washing to bottom.

CHAMBERS COUNTY

John H. Carrecker's No. 1 B. Weaver, 404 ft. out of SE cor. of lease in John Carrecker Sur. ..... Drlg. 300 ft.
Miramar Oil Co.'s No. 1 Geo. Stengler, V. Barrow Sur., 3,200 ft. from E line and center of N and S lines of lease ..... Moving in material.

COLORADO COUNTY

Humble O. & R. Co.'s No. 1-A O. M. Powell, I.&G.N. Sur. No. 44, 150 ft. E of W line, 600 ft. N of S line of lease ..... Drlg. sand 4,659 ft.

FORT BEND COUNTY

O'Connor Dome Oil Co.'s (was A. N. Phillips et al's) No. 1 Grigar, 2,150 varas E line, 1,550 varas N line, J. S. O'Connor Sur. ..... Repair rig; S.D. 4,065 ft.
Phillips Pet. Co.'s No. 1 A. E. Holmes, 600 ft. from E and 300 ft. from S lines of 200-ac. tract in Samuel Isaac Sur. ..... Rigging up.
Quintana et al's No. 2 Wood, O'Connell & Mellon, 304 ft. from S line and 5,360 ft. from E line of lease ... Rigging up.
J. P. White's No. 1 Wing, B. Osborne Sur., 2,000 ft. from N, 4,000 ft. from E line of tract ..... Standing 750 ft.

GRIMES COUNTY

Clark & Dodd's No. 1 Murry, 150 ft. W line, 300 ft. S line, Anderson Sur. ..... No report.
Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.
Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... T.D. 3,825 ft.; P.B. 3,200 ft.
H. C. Ratcliff's No. 1 Fulgham, A. Tuttle Sur., 600 ft. N line, 540 ft. W line of lease ..... Derrick.
O. C. Rush's No. 1 J. C. League, V. Sanders Sur., 165 ft. from N line, 455 ft. from W line ..... Drlg. shale 2,840 ft.

HARDIN COUNTY

Resource Oil Corp.'s No. 1 Sternberg Oil Co., C of G. Dorsey No. 3 Sur., Abst. 193 ..... Location.

HARRIS COUNTY

Golding & Murchinson's No. 1 Clappert, W.C.R.R. Sur., Blk. 4, Sec. 9, 1,350 ft. from E line, 330 ft. from N line ..... T.D. 3,250 ft.; show gas and odor oil 3,198-3,220 ft.; probably will make D.S. test.
J. A. Hodges' No. 1 Scott, 200 ft. S, 900 ft. W of intersection of Crosby Huffman, F. Rankin Sur. ..... Cored 5,830-38 ft.; S.D.
G. L. McCarthy et al's No. 1 Preston, Wm. Jones Sur., 236 ft. E, 161 ft. S of NW cor. Blk. 9, W. A. Payne Subd. ..... Rigging up.

HOUSTON COUNTY

Thompson et al's No. 1 E. W. Harrison, 330 ft. out E cor. 130-ac. tract, J. Masters, Sr., Sur. ..... No report.
Murmac Oil Co.'s No. 1 G. L. Murray & Son, John Durst Sur. ..... No report.

JACKSON COUNTY

Atkins & O'Neil's No. 1 Ward (Davis), C Lot 93, I.&G.N. Sur. No. 18, Blk. 8 ..... Spudding.
Encio Gas Co.'s No. 1 Toney, 150 ft. out of NW cor. of Toney's 1,064-ac. tract in Raymor Musquis Sur.. Derrick.

JEFFERSON COUNTY

Lucky Strike Oil Co.'s No. 1 Walker, D. Easley Sur., 2,100 ft. N, 1,400 ft. E of NW cor. of Lot No. 13. S.D. 1,708 ft.; shale and lime.
Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 990 ft. E line of lease ..... Shale; T.D. 5,837 ft.; reaming.

LIBERTY COUNTY

Brown & Wheeler's No. 1 Goldberg, Lot 14, J. Eldridge Sur. ..... Coring 5,891 ft.; top Cockfield 5,721 ft.; sand and shale 5,833-91 ft.; no shows.
Denton & Akin's No. 1 B. E. Quinn, A. B. Rozelle Sur., 3,075 ft. from E line and 4,750 ft. from S line of Sur. ..... Location.

Gulf Prod. Co.'s No. 2 Kirby, John Pleasants Sur., 1,366 ft. S of No. 1 ..... Sand with streaks lignite 5,942-6,001 ft.; D.S. test 5,895-5,901 ft.; 200 ft. oil and 700 ft. salt water.

Gulf Prod. Co.'s No. 1 Grogan, Clayton Harper Sur., 1,500 ft. from E line and 466 ft. from S line ..... Coring 4,597 ft.

Miramar Oil Corp.'s No. 1 Crowe & Jacobs, H.&T.C. Sur. 21, 950 ft. W of E line, 110 ft. N of S line of 300-ac. tract ..... Drlg. hard sand 3,285 ft.

H. Sample's No. 1 Security Trust Co., 466 ft. from S and E lines of N 600 ac. of Lot 3 of H. Sample Subd. of J. Faulk Sur. ..... Location.

Wilcox Oil & Gas Co.'s No. 1 Cousins, Jas. Knight Sur., 1,320 ft. from N line and 875 ft. from E line of lease ..... Building derrick.

MATAGORDA COUNTY

Oils Consolidated's No. 2 Hawkins, 200 ft. due NE of No. 1 well ..... Drlg. sticky shale 3,700 ft.

Skelly Oil Co.'s No. 1 Cobb, M. Cummins Sur., 434 ft. from E, 1,506 ft. S of F. G. Cobb's 167-ac. tract ... T.D. 7,186 ft.; P.B. to 7,045 ft.; set 7-in. at 7,120 ft.; W.O.C.

United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye townsite ..... Drlg. shale and lime 9,020 ft.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. ..... T.D. 4,921 ft.; P.B. to 4,909 ft.; tested S.W.; S.D.

Hamill & Smith's No. 1 Foster Lbr. Co., Pryor Bryan Sur., 7,147 ft. from W line and 3,760 ft. from N line of lease ..... Drlg. 4,250 ft.

Steen Drlg. Co.'s No. 1 Long Bell Lbr. Co., 440 ft. S and E from NW cor. of Wilson Barker Sur. ..... Coring 4,530 ft.; top Warren at 4,170 ft.

Sutton & Hawkins' No. 2 Foster est., 90 ft. E of No. 1, A. M. Del Garza Sur. ..... No report.

NACOGDOCHES COUNTY

James W. Rich's No. 1 Unknown, J. L. Ewing Sur., 2,777 ft. from W line, 5,208 ft. from S line of survey.. No report.

ORANGE COUNTY

Texas Louisiana Oil Co.'s No. 1 Starks, 2,460 ft. N of NW cor. M. Delano Sur. 68, 10,500 ft. E at R/A. .. T.D. 1,200 ft.; S.D.

POLK COUNTY

Alpha Petroleum Co.'s No. 1 Kirby & West, Thomas Sur., 330 ft. out of SE cor. of 150-ac. lease ..... Moving in.

Dick Schwab's No. 2 Kirby & West, 660 ft. from W line, 393 ft. from S line of lease in G. S. Thomas Sur. ..... Pulling screen to core deeper; T.D. 4,856 ft.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 11 O'Connor, Powers & Hewitson Sur., 301 ft. S, 833 ft. E of No. 10 ..... T.D. 3,174 ft.; P.B. 3,171 ft.; shut in.

SAN AUGUSTINE COUNTY

Fidelity Exploration Co.'s No. 1 Bryan & Flourney, 1,926 ft. from N and 725 ft. from E lines of Sec. 14, S.P.R.R. Sur. ..... Moving in rig.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 2 Foster, 330 ft. each way out of NE cor. Geo. Taylor Sur. ..... Building road.

Turnbull & Irwin's No. 1 Fitzgerald, Gowan Harris Sur., 3,300 ft. from E line and 1,320 ft. from N line of tract ..... Moving in.

Weaver & Crimm and Shell Pet. Corp.'s No. 1 Delta Land & Lbr. Co., Earl Lusk Sur. ..... T.D. 5,201 ft.; dry and abd.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 5 Keeran, M. DeLeon Sur., 1,739 ft. S and 1,600 ft. from W lines of lease ..... Oil sand 5,562 ft.; tested 450 ft. oil 40 lbs.

Houston Oil Co.'s No. 1 Victor Urban, R. Manchola Sur., 330 ft. from NW and SW lines of 161.37-ac. tract ..... Gas sand 2,163-2,171 ft.; set 15 ft. of 5-in. screen.; comp. 2,000,000 ft. gas, 480 lb. on csg., through 7/16-in., 700 lbs. on tubing.

Markle et al's No. 1 Dunlap, Manuel Zepeda Sur., 9,550 ft. along NW line of survey from most northerly NE cor. and 1,475 ft. SE at R/A ..... Drlg. gumbo 500 ft.

Texas Co.'s No. 6-A McFaddin, A. J. Gray Sur., 5,600 ft. from NE line, 250 ft. from SE line ..... Drlg. sticky shale 3,110 ft.

Texas Co.'s No. 7-A McFaddin, 250 ft. due N of No. 7, A. J. Gray Sur. ..... T.D. 1,597 ft.; standing with 125 lbs. pressure.

Texas Co.'s No. 8 McFaddin, A. J. Gray Sur., 6,600 ft. N of S line, 1,383 ft. from E line of NE cor. ..... D. S. stuck 3,609 ft.; cut pipe to 2,798 ft.; P.B. to 1,825 ft.; drlg. shale 1,983 ft.

WHARTON COUNTY

Monarch Oil Co.'s No. 1 Schateck, 150 ft. each way out of SW cor. G. W. Reynolds Sur. ..... Abd. 1,475 ft.

Nabers et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... T.D. 5,026 ft.; to sidetrack 3,800 ft.

Pure Oil Co.'s No. 2 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres.. Derrick.

Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. Sec. 28.. T.D. 7,614 ft.; D.S. stuck 6,800 ft.

Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Abd. 7,142 ft.

Pure Oil Co.'s No. 1 Wallace Houston, 858 ft. SE of NW line, 1,690 ft. NE of SW line, Sec. 28, (T. W Heard Sur.) ..... T.D. 6,457 ft.; shot 5-in. csg. at 5,554 ft.

Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section ..... Coring hard sandy lime 6,414 ft.

SOUTH LOUISIANA

ACADIA PARISH

Millis Bennett Prod. Co.'s No. 1 Riverside, 1,400 ft. S, 467 ft. E of NW cor. Sec. 61-9s-2w ..... Drlg. out cmt.; surface csg. collapsed; T.D. 7,588 ft.

Superior Oil Co.'s No. 1 P. O. Hermandes, 990 ft. W, 990 ft. S of NE cor. SE Sec. 34-8s-3e ..... Drlg. water sand 7,566 ft.

ASCENSION PARISH

Turnbull & Irwin's No. 1 Community (Darrow) ..... Cored sandy shale 4,612-15 ft.; showing oil; to make D.S. test.

BEAUREGARD PARISH

Humble Oil & Ref. Co.'s No. 1 Long Bell, 200 ft. E of W line and 2,640 ft. S of N line of Sec. 11-5s-7w ..... Drlg. shale 3,136 ft.

CALCASIEU PARISH

Gulf Ref. Co.'s No. 1 Sweet Lake Oil Co., 660 ft. N, 330 ft. E of SW cor. Sec. 29-10s-8w ..... Drlg. shale 8,492 ft.

Union Sulphur Co.'s No. 1 Barbe, 2,681 ft. W, 2,647 ft. S of NE cor. Sec. 1-9s-8w ..... Drlg. sand and shale 7,500 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 2 Devilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-9s-4w ..... T.D. 8,423 ft.; cutting and pulling liner.

Shell Pet. Corp.'s No. 1 Kratzs, 660 ft. S, 330 ft. W of NE cor. NW Sec. 12-9s-4w ..... Drlg. hard shale 6,342 ft.

Geo. W. Strake's No. 1 Pedigrew, 200 ft. out of SW cor. Sec. 9-9s-6w ..... Drlg. shale 5,346 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 1 Harang, Lot 4, Twp. 17s-20e.. T.D. 7,195 ft. in salt; P.B. to 6,368 ft.; drld. to 6,954 ft.; S.D.

Souther Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7, thence 250 ft. S of Sec. 26-21s-22e ..... Spudding.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 23-13s-15e ..... Drlg. 1,420 ft.; shale.

ST. LANDRY PARISH

H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e ..... Coring shale 3,420 ft.

ST. MARTIN PARISH

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... Shale 7,503 ft.; P.B. to 6,600 ft.; preparing to sidetrack.

TERREBONNE PARISH

Texas Co.'s No. 10 State-Caillou Island..... T.D. 5,652 ft.; sand rock; D.S. stuck.

Texas Co.'s No. 2 State-Four Island Bayou ..... Drlg. shale 6,617 ft.

Texas Co.'s No. 7 State Bay-St. Elaine, 3,900 ft. N, 2,300 ft. E of SW cor. Sec. 3-22s-18e ..... Drlg. salt 3,229 ft.

Texas Co.'s No. 10 State-Lake Pelto, 420 ft. N, 1,246 ft. E, SW cor. Sec. 4-23s-18e ..... Drlg. hard sand 5,509 ft.

VERNON PARISH

Robt. K. Williams, Jr.'s No. 1 Liano Del Rio, 1,185 ft. S, 1,000 ft. W of NE cor. Sec. 7-1n-9w ..... Rig

Wildcat Operations in Southwest Texas

(Continued from Page 54)

Humble O. & R. Co.'s No. 2 Peters, 1,320 ft. from N line, 330 ft. from W line of Sur. No. 15..... Rigging up.

Louis Yeager's No. 1 Yeager, 694 ft. from W line, 1,527 ft. from S line of Sur. No. 38 ..... Location.

C. G. Mortimer's No. 1 W. R. Peters, 330 ft. from S line, 990 ft. from W line of NE Sur. No. 176 ..... Derrick.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs ..... T.D. 3,002 ft.; moving in heavy rig.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Marcia Louisa Carranza Sur. No. 302 ..... T.D. 6,453 ft.; testing gas volume after testing salt wtr. in Edwards 6,444-53 ft.

Humble O. & R. Co.'s No. 1 Woodward, 3,200 ft. from NE line, 1,200 ft. from SE line of 320-ac. tract in E. Poor Sur. ..... Rigging up.

GILLESPIE COUNTY

Powers et al's No. 2 Lindig, 12,700 ft. from S line, 1,333 ft. from W line of Maria Josephine Guerrera Sur. ..... Location.

GUADALUPE COUNTY

A. F. Barnhill's No. 3 F. A. Phillman, 1,300 ft. from N line, 152 ft. from E line of lease in L. Bollinger Sur. ..... T.D. 2,293 ft.; repairing rig.

M. W. Eiser's No. 2 Wells, 1,700 ft. from S line, 200 ft. from W line of Blk. 3, Subd. 1, J. de la Baume Sur. ..... Location.

Adolph Seideman's No. 1 Seideman, 280 ft. from NE line, 470 ft. from NW line of Mrs. Adolph Seideman 147.5-ac. tract (Subd. 110) in Antonio Maria Esnaurrizer Sur. No. 11 ..... T.D. 2,524 ft.; abnd. in Nov., 1930, as the New Braunfels O. & G. Co.'s No. 1 Seideman; now cleaning out to deepen.

Trinity Drillers' No. 1 Ball, 330 ft. from NE and SE lines of 91-ac. tract in L. H. Peters Sur. ..... Location.

HAYS COUNTY

J. C. Crowder's No. 1 Burnett, 2,370 ft. from E line, 1,400 ft. from N line of tract in J. Ingram Sur. .... T.D. 430 ft.; set csg.

HIDALGO COUNTY

Chancellor & Hall's No. 1 Garcia, 150 ft. from W line of Porcion No. 42, and 150 ft. N of old Military Highway ..... T.D. 3,187 ft.; will deepen to 4,100 ft. to hold leases.

D. D. Oil Co.'s No. 1 Mrs. L. George, 330 ft. from N and W lines of 40-ac. tract in Share 13, Porcion 41.. Location.

McGinley's No. 1 Francisco B. Guerra, 300 ft. from N and E lines of 40-ac. tract in Share 12, Porcion 41.. T.D. 3,102 ft.; S.D.

Shankle's No. 1 Garza, ¾ mile S from McGinley ..... Derrick.

JIM HOGG COUNTY

French Oil Co.'s No. 1 Gutierrez, 330 ft. from N line, 330 ft. from W line, Blk. 1, in Sur. No. 142, E from Alworth Pool ..... T.D. 1,200 ft.; drlg.

A. W. Majors' No. 1 M. Guerra & Son, 2,444 ft. from W line, 3,698 ft. from N line of Sur. No. 369, in SW part of county ..... Moving in rig.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2¼ miles W from Alfred ..... Rigging up.

Rodney DeLange and W. C. McBride, Inc.'s No. 1 Driscoll, 8,000 ft. from most westerly W line, 330 ft. from most northerly S line of Los Jaboncillos grant T.D. 1,935 ft.; drlg. shale.

C. H. Robertson's No. 1 C. Muil, 330 ft. N of N end of division line between Lots 4-A and 5-A of Seefelds farm lots, or 1,300 ft. from W line, 300 ft. from N line of Pointevant Sur. No. 205 ..... Heatly magnetometer location.

KARNES COUNTY

Campbell et al's No. 1 Ira Coats, 330 ft. from S and E lines of 260-ac. tract in Carlos Martinez Sur. .... T.D. 2,552 ft.; resumed drlg.

C. J. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur. ..... T.D. 1,790 ft.; standing; may deepen to Yegua.

KENDALL COUNTY

A. P. Pierce's No. 1 Werner, in SW cor. of 40-ac. tract 150 ft. from S and W lines, in J. F. Torrey Sur. .... T.D. 992 ft.; standing.

W. E. Waldrip's No. 1 Charles Meckel, 300 ft. from E line, 3,300 ft. from S line of Thos. J. Sweeney Sur. No. 10 ..... T.D. 415 ft.; waiting for csg.

KERR COUNTY

G. F. Schreiner's No. 3 Love, 1,420 ft. from W line, 1,260 ft. from S line of Sur. No. 1,594 ..... Location.

Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 ..... T.D. 1,040 ft.; standing.

KLEBERG COUNTY

Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 8, Kleberg Town & Improvement Co. Sur. ..... T.D. 2,050 ft.; S.D.

LEE COUNTY

H. A. Sherlack's No. 1 Otto, 736 ft. from NW line, 1,310 ft. from NE line of 57.5-ac. tract in Thomas Morrow Sur. ..... Rigging up.

LIVE OAK COUNTY

H. Coquat et al's No. 1 Burgess, 990 ft. from W line of Sec. 77, 33 ft. from N line of Simmons Subd. in farm tract No. 3,487 ..... T.D. 2,664 ft.; coring deeper after testing 2,660-64 ft.

Rodney DeLange's No. 1 T. E. Nelson, 660 ft. from N and W lines of 40-ac. tract in G. Braba Sur. .. .... T.D. 800 ft.; drlg.

J. H. Durbin's No. 2 Marbach, midway between NW line and SE line of 423.3-ac. tract and 350 ft. SW line of S. Hays Sur. ..... T.D. 915 ft.; drlg.

W. P. Howard's No. 2 Nichols, 150 ft. from W line, 2,640 ft. from N line of Subd. "B," or 4,450 ft. from W line, 2,640 ft. from N line of tract in Louis Ayres Sur. ..... T.D. 1,217 ft.; abnd. dry.

Loma Oil Co.'s No. 1 Reiffert, 300 ft. from NW line, 1,100 ft. from SW line of 130-ac. tract, in Stephen Hays Sur. ..... T.D. 1,224 ft.; abnd. dry.

Marine Oil Corp.'s No. 1 J. B. Dunning, 4,500 ft. from E line, 150 ft. from N line of 462-ac. tract in Maria Bridget Klolin Sur. ..... T.D. 5,010 ft.; drlg.

MAVERICK COUNTY

C. L. Mahoney's No. 1 Wyche, 150 ft. from S line, 300 ft. from W line of 453-ac. tract in Sec. 20.... T.D. 340 ft.; S.D.

McMULLEN COUNTY

Armoil Prod. Co.'s No. 1 Kate Martin, 1,470 ft. from SE line, 1,470 ft. from SW line of H.T.&B. Sur. No. 9 .... T.D. 2,100 ft.; drlg.

Two Rivers Oil Co.'s No. 2 Two Rivers Ranch, 330 ft. from W line, 100 ft. from N line of Sec. 64, of Two Rivers Ranch Subd. .... T.D. 380 ft.; comp. 6,000,000 ft. gas.

Rowan and Hope's No. 1 Hagist, 330 ft. from N line, 1,650 ft. from E line of S½ of Sur. No. 14 .... T.D. 350 ft.; drlg.

C. C. Shumway's No. 4 Shiner, 330 ft. from W line, 660 ft. from N line of SE Sec. 38, Shumway's Subd., Shiner ranch .... T.D. 300 ft.; drlg.

MEDINA COUNTY

O. R. Framme's No. 1 E. Boelke, 987 ft. from N line, 600 ft. from E line of 102-ac. tract in S. Huth Sur. No. 10 .... T.D. 1,290 ft.; abnd. in Edwards; hole full water.

Scoggin & Sanders' No. 1 L. W. Burell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. No. 395 .... T.D. 425 ft.; S.D.

MILAM COUNTY

O. H. Birdwell's No. 1 J. R. Bartek, 150 ft. from N line, 180 ft. from W line of 88-ac. tract in J. A. de Pena Sur. .... T.D. 1,572 ft.; drlg.

Fred Pederson's No. 1 T. E. Fulton, 1,000 ft. from NW line, 320 ft. from NE line of 148-ac. tract in Juan Jose Acosta Sur. .... T.D. 1,400 ft.; standing.

NUECES COUNTY

Sullivan and Texon Royalty Co.'s No. 1 Simmons & Perry, 330 ft. from S and W lines of NE of square 640-ac. section out of SW cor. of Simmons & Perry tract, 2 miles east of Agua Dulce Field .... T.D. 600 ft.; drlg.

SAN PATRICIO COUNTY

Plymouth Oil Co.'s No. 1 Welder, 4,700 ft. N of Chiltipin Creek, 900 ft. from W line of J. M. and F. Portilla Sur., 1½ miles N from Sinton .... T.D. 2,900 ft.; drlg.

STARR COUNTY

Accumulative Royalty Co.'s No. 1, Martinez, 800 ft. from S line, 500 ft. from W line of C.C.S.D.&R. G.N.G. Sur. No. 217 .... T.D. 2,865 ft.; changing rigs; to go to 4,000 ft.

B. & B. Oil Co.'s No. 2 Kelsey Bass, 330 ft. from W and S lines of Blk. 12 of Subd. of Porcions 86 and 87, jurisdiction Camargo .... Rigging up.

Dean Bros.' No. 1 M. M. Garcia, 2,150 ft. from S line, 4,600 ft. from W line of Sur. No. 916 .... Location.

Goodwin & Yantis' No. 5 Kelsey Bass, 150 ft. from S and W lines of Blk. 1, Sur. 3, of Coastal O. & G. Co.'s Subd. of Porcion 86, jurisdiction Camargo... Rigged up.

Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344.. T.D. 3,517 ft.; fishing for bailer.

Jeffries-Lambeth Drlg. Co.'s No. 2 Starr County Cattle Co., N of No. 1 in Share 60, Porcion 89 .... Rigging up.

W. H. Liber's No. 1 I. Y. Garcia, 1,546 ft. from N line, 962 ft. from W line of 254-ac. tract in Porcion No. 75, jurisdiction of Camargo .... T.D. 1,035 ft.; drlg.

Milhoon Drilling Co.'s No. 1 Rogan, 150 ft. from NW and NE lines of SE 468 acres of Sur. 6, El Javali grant .... Spudded in; spelling of operator's name corrected.

Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 .... T.D. 2,520 ft.; standing.

R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,090 ft. from W line, 2,480 ft. from S line of Sur. 933... T.D. 1,547 ft.; S.D.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 .... T.D. 925 ft.; standing; to be comp. by R. L. Batts.

G. M. Rowe's No. 2 Smith (200-ac. tract), 450 ft. from NE and SE lines of tract in L. Kimbro Sur. .... T.D. 822 ft.; drlg.

WEBB COUNTY

L. E. Lockhart's No. 1 E. Eikel, 330 ft. from N line, 260 ft. from E line of Sur. No. 1,672 .... Rigging up.

Don E. Megahan et al's No. 1 F. C. Gowdy, 330 ft. from E line, 1,450 ft. from N line of Sur. No. 2,112... Derrick.

WILSON COUNTY

Bidnar & Powell's No. 1 L. C. George, 400 ft. from SE line, 475 ft. from SW line of 86.5-ac. tract in C. Diaz Sur. No. 44 .... T.D. 1,275 ft.; drlg. shale.

WILLIAMSON COUNTY

Atlantic-Pacific Corp.'s No. 1 W. C. Daniel, 500 ft. from SW line, 2,100 ft. from SE line of Washington P. Reese Sur. No. 3 .... T.D. 401 ft.; S.D.

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. .... T.D. 2,300 ft.; standing.

R. S. Wilson's No. 2 Sing, 300 ft. from SW line, 1,250 ft. from SE line, of T. A. Moore Sur. .... T.D. 530 ft.; S.D.

ZAPATA COUNTY

Muckelroy's No. 1 Flores, on NE line and 75 ft. from SE line of Lot 3, Blk. 30, Muckelroy Subd. of Porcion No. 37 .... Derrick.

Southwest Texas Proven Areas

Week Ending February 24

CEDAR CREEK POOL—BASTROP COUNTY

Cole Petroleum Co.'s No. 4 American National Bank, 150 ft. from SE line, 1,650 ft. from SW line of Lucy Hendrix 610-ac. tract in R. Gage Sur. No. 10.. Rigging up.

Marts & Beavens' No. 7 Reyes, 660 ft. from NW and SW lines of Amada Reyes 233-ac. tract in Addison Litton Sur. .... T.D. 1,652 ft.; set csg.

NORTH DALE POOL—BASTROP COUNTY

Ogden & Reed's No. 2 Spradlin, 800 ft. from N line, 200 ft. from SE line of 113-ac. tract, 600 ft. SW of No. 1 Spradlin in Joshua Gray Sur. .... T.D. 2,200 ft.; coring and showing oil.

Ogden & Reed's No. 1 W. F. Talley, 200 ft. from SE and SW lines of 198-ac. tract in Joshua Gray Sur... T.D. 2,296 ft.; comp. 30 bbls.

Watt L. Saunders' No. 1 Harris, 1,100 ft. from SW line, 2,530 ft. from NW line of John Maximillian Sur. No. 22 .... T.D. 740 ft.; drlg.

Witherspoon Oil Co.'s No. 1 A. H. Harris, 150 ft. from SE and SW lines of Harris' 130-ac. tract in Joshua Gray Sur. .... Spudded in.

TULETA POOL—BEE COUNTY

Garland Clymore's No. 1 Rapp & Hatch, 650 ft. E along the S line from R.R., thence 1,350 ft. N at R/A in Sec. 12 of J. M. Uranga Sur. .... T.D. 4,041 ft.; tested mud in Pettus sand.

VON ORMY POOL—BEXAR COUNTY

Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 657-ac. tract in F. Rolen Sur. .... Rigged up and standing; to be drilled by Cosby & Flowers.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur. .... T.D. 1,055 ft.; setting 6⅝-in. csg.

J. P. Harrison's No. 4 F. Gembler, 150 ft. from NW line, 400 ft. from NE line of 88-ac. tract in J. Montes Sur. .... T.D. 831 ft.; S.D.

S. J. Moore's No. 5 T. W. Masterson, 150 ft. from S line, 175 ft. from W line of 41-ac. tract in Miguel Gortaris Sur. .... T. D. 736 ft.; 6 1/5-in. csg.

S. J. Moore's No. 4 T. W. Masterson, 150 ft. from S and W lines of tract in M. Cartari Sur. .... T. D. 320 ft.; S.D.

EAGLE HILL POOL—DUVAL COUNTY

Al Buchanan's No. 5 Duval County Ranch Co., 990 ft. from E line, 330 ft. from S line of N½ of Sur. No. 206 .... Location.

Al Buchanan's No. 4 Duval County Ranch Co., 990 ft. from S line, 2,310 ft. from E line of N½ Sur. 206.. T.D. 100 ft.; standing.

R. D. Kelley's (S.R.C.) No. 5 Foster, 330 ft. from S and W lines of 50-ac. tract in Sur. No. 206 .... T.D. 2,147 ft.; tested gas and 30 bbls. oil daily.

Shasta Oil Co.'s No. 3 Foster, 50 ft. S of No. 1, or 330 ft. from N line, 330 ft. from E line of S½ of Sur. No. 206 .... Rigging up.

Texas Co.'s No. 7-A Duval County Ranch, 2,970 ft. from E line, 990 ft. from N line of Sur. No. 206 .. T.D. 2,362 ft.; recementing.

EAST COLE POOL—DUVAL COUNTY

Motes-Campbell's No. 1 Bruni, 150 ft. from NE and SE lines of Sec. 493, Myrtle E. Hale Subd., Mariano Arispe grant .... T.D. 1,520 ft.; drlg.

IGNACIO POOL—DUVAL COUNTY

DeSoto O. & G. Co.'s No. 3 Wood-Welder, 2,100 ft. from W line, 1,900 ft. from N line of Sur. No. 211.... T.D. 1,790 ft.; drlg.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble Oil & Ref. Co.'s No. 32 C. W. Hahl, 2,970 ft. from S line, 1,650 ft. from W line of E½ of Sur. No. 360 .... T.D. 2,322 ft.; comp.; not gauged.

Humble Oil & Ref. Co.'s No. 33 C. W. Hahl, 4,350 ft. from S line, 1,650 ft. from W line of E half of Sur. No. 360 .... T.D. 2,301 ft.; set csg.; W.O.C.

K. O. T. Oil Co.'s No. 3 Lundell, 1,470 ft. from S line, 1,170 ft. from W line of Sur. No. 48 .... T.D. 1,625 ft.; drlg.

Magnolia Pet. Co.'s No. 18 Duval County Ranch Co., 2,970 ft. from E line, 1,650 ft. from S line of Sur. No. 208 .... T.D. 2,313 ft.; set csg.; W.O.C.

Magnolia Petroleum Co.'s No. 19 Duval County Ranch Co., 1,650 ft. from S line, 3,630 ft. from E line of Sur. No. 208 .... T.D. 1,225 ft.; drlg.

Magnolia Petroleum Co.'s No. 20 Duval County Ranch Co., 330 ft. from S and W lines of Sur. No. 209 .... Derrick.

Magnolia Petroleum Co.'s No. 6-A C. W. Hahl, 990 ft. from N line, 330 ft. from E line of SE Sur. No. 45 .. Derrick.

Magnolia Petroleum Co.'s No. 6 J. T. Johnson, 750 ft. from N line, 330 ft. from W line of SW Survey No. 44. Derrick.

Reynosa Oil Corp.'s No. 4-D Duval County Ranch Co., 330 ft. from S line, 990 ft. from E line of S half SW Sur. No. 362 .... T.D. 100 ft.; drlg.

Reynosa Oil Corp.'s No. 3-D Duval County Ranch Co., 330 ft. from S and E lines of S½ SW of Sur. No. 362 .... T.D. 2,280 ft.; set csg.; W.O.C.

Russ Petroleum Co.'s No. 3-A C. W. Hahl, 330 ft. from S line, 990 ft. from W line of N half SW Sur. No. 46 Rigging up.

Russ Pet. Co.'s No. 4-A C. W. Hahl, 330 ft. from S and W lines of NW SW Sur. No. 46 .... T.D. 2,292 ft.; comp. 6 bbls. hrly.

Sun Oil Co.'s No. 35 Weiderkehr, 1,650 ft. from N and E lines of Sur. No. 359 .... T.D. 900 ft.; drlg.

Sun Oil Co.'s No. 32 Weiderkehr, 3,654 ft. from W line, 330 ft. from N line of Sur. No. 359 .... T.D. 2,105 ft.; drlg.

Sun Oil Co.'s No. 33 Weiderkehr, 330 ft. from S line, 990 ft. from E line of Sur. No. 359 .... Location.

Sun Oil Co.'s No. 29 Weiderkehr, 1,650 ft. from W line, 330 ft. from N line of Sur. No. 359 .... T.D. 2,306 ft.; running tubing.

Sun Oil Co.'s No. 30 Weiderkehr, 1,659 ft. from E line, 990 ft. from N line of Sur. No. 359 .... T.D. 2,304 ft.; comp. 17 bbls. hrly.

Sun Oil Co.'s No. 31 Weiderkehr, 2,310 ft. from W line, 330 ft. from N line of Sur. No. 359 .... T.D. 2,311 ft.; comp. 48 bbls. hrly.

Sun Oil Co.'s No. 34 Weiderkehr, 330 ft. from S line, 1,650 ft. from E line of Sur. No. 359 .... T.D. 2,242 ft.; comp. 50 bbls. dly.

Texas Co.'s No. 5 Duval County Ranch Co., 330 ft. from S line, 990 ft. from E line of SE Sur. No. 362.. T.D. 2,297 ft.; set csg.; W.O.C.

Texas Co.'s No. 10 H. Wendt, 330 ft. from W line, 1,650 ft. from N line of Sur. No. 42 .... T.D. 2,266 ft.; running liner.

ORIGINAL GOVERNMENT WELLS POOL—DUVAL COUNTY

Trapshooter Reilly's No. 1-B C. W. Hahl, 200 ft. from W line, 330 ft. from S line of Blk. 26, Sur. 250.... Location.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Cox & Hamon's No. 2 State, 330 ft. from S and E lines of NE SW Sur. No. 60 .... T.D. 2,248 ft.; drlg. plugs.

Humble Oil & Ref. Co.'s No. 18 Paul White, 660 ft. from W line, 4,950 ft. from S line of Sur. No. 58 .... Rigging up.

Humble O. & R. Co.'s No. 17 Paul White, 1,980 ft. from E line, 990 ft. from S line of Sur. No. 249.. .. T.D. 2,263 ft.; comp. 18 bbls. oil.

SARNOSA POOL—DUVAL COUNTY

Magnolia Pet. Co.'s No. 5 Ruiz, 330 ft. from NE and SE lines of S¼ of Sur. No. 574 .... T.D. 2,473 ft.; comp. 5 bbls. dly.

NEW BERLIN POOL—GUADALUPE COUNTY

J. A. Harper's No. 2 Rosenbrook, 660 ft. SW of No. 1...T.D. 701 ft.; standing.

ALWORTH POOL—JIM HOGG COUNTY

French Oil Corp.'s No. 1 M. Garza (W side of pool), Sur. No. 281 .... T.D. 1,200 ft.; drlg.

KINGSVILLE POOL—KLEBERG COUNTY

Ryals & Bartlett's No. 1 Flato, 150 ft. from N line, 30 ft. from W line of NE SE Sec. 40, of Kleberg Town & Improvement Co. Sur. .... Derrick.

JACOB POOL—McMULLEN COUNTY

C. R. Kennon's No. 1 Lark, 910 ft. from W line, 150 ft. from N line of 20-ac. tract, Blk. 27, Scrugham Sur. .... T.D. 1,070 ft.; recmtd. liner at 1,044 ft.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 4-C Guerra, 1,320 ft. from NW line of Porcion, 660 ft. SW of E cor. of LaSacatosa grant .... T.D. 2,205 ft.; comp. 15,000,000 ft. gas.

Sun Oil Co.'s No. 1-D Guerra, 6,353 ft. from NE line, 3,300 ft. from SE line of La Sacatosa grant .... Rigging up.

KING POOL—NUECES COUNTY

John F. Camp's No. 2 King, 990 ft. from N line, 330 ft. from E line of NE Sec. 24, of King Farm lots.. T.D. 560 ft.; set surface csg.

LOS OLMOS POOL—STARR COUNTY

Los Olmos O. & G. Co.'s No. 57 Kelsey Bass, 150 ft. from N line, 668 ft. from W line of SE SW Sec. 6, Porcions 75, 76 and 77 .... T.D. 640 ft.; standing; depth corrected.

MOCA POOL—WEBB COUNTY

Quintana Oil Co.'s No. 4 Duval County Ranch Co., 1,643 ft. from E line, 650 ft. from S line of Blk. 11, Share 3, Zapata School land .... T.D. 845 ft.; set csg.; W.O.C.

EAST COLE POOL—WEBB COUNTY

Allen & Morris' No. 1 Bruni, 418 ft. from NE line, 240 ft. from SE line of Blk. 2, Sec. 5, of Adams Subd. of Arispe grant .... T.D. 2,959 ft.; comp. 4,000,000 ft. gas; may drill deeper; 1,100 lbs. pressure; shows a little high gravity oil.

WEST COLE POOL—WEBB COUNTY

Cole Pet. Co.'s No. 83 R. Benavides, 1,362 ft. from E line, 440 ft. from N line, Blk. 6 in Sur. No. 412 .... T.D. 1,650 ft.; drlg.

Magnolia Pet. Co.'s No. 1 F. Benavides, 660 ft. from S and E lines of Blk. 14 .... T.D. 1,840 ft.; drlg.

Magnolia Pet. Co.'s No. 2 S. S. Benavides, 660 ft. from N line, 150 ft. from W line of Sur. No. 696 .... T.D. 2,339 ft.; comp. pumping 75 bbls. dly.

BYERSVILLE POOL—WILLIAMSON COUNTY

Otto Stolley's No. 1 Charles L. Byer, beginning at SE cor. of P. Cartwright Sur. SW 4,700 ft. along survey line then 950 ft. SE at right angles in P. Stoddard Sur. .... T.D. 530 ft.; setting 6⅝-in.

Taylor Prod. Co.'s No. 1 John Reiger, 150 ft. from NE line, 3,950 ft. from SE line of P. Cartwright Sur. .... Comp. 25 bbls.; rep. depth later.

ESCOBAS POOL—ZAPATA COUNTY

Allen & Morris' No. 41 Gutierrez, 1,950 ft. from NE line, 3,063 ft. from SE line of Share No. 4 in Comitas grant ..... T.D. 1,300 ft.; comp. 35 bbls. dly.

Kleiner & Hill's No. 7 Gutierrez, 2,345 ft. from NW line, 200 ft. from NE line of Share 4 in Comitas grant ..... T.D. 1,226 ft.; in sand; changing to standard tools.

W. E. West and J. P. Perry's No. 1 Garcia, 1,200 ft. from NW line, 200 ft. from NE line of Share 3 of Comitas grant ..... T.D. 350 ft.; drlg.

MARTINEZ POOL—ZAPATA COUNTY

W. R. Shankle and Wm. McGinley's No. 2 Manuel Trevino heirs, 330 ft. from W line, 150 ft. from S line of Blk. 15, Sur. No. 411 ..... T.D. 1,500 ft.; standing.

MIRANDO VALLEY POOL—ZAPATA COUNTY

Blair & Blankenship's No. 1 R. Hinnant, 450 ft. from S line, 300 ft. from W line of Blk. 16, Sur. No. 116.. T.D. 1,505 ft.; setting csg.

O. W. Killam's No. 1 R. Hinnant, 365 ft. from SE line, 158 ft. from SW line of Blk. 7, Sur. No. 10 ..... T.D. 1,310 ft.; drlg.

VILLA POOL—ZAPATA COUNTY

Danvers & Harrison's No. 1 Garza, 330 ft. from SE and NE lines of Blk. 102, Douglas Subd., Comitas grant.. T.D. 1,250 ft.; drlg.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 55)

Zan Lloyd's No. 1 Henderson, 330 ft. N and W, C Sec. 29-9-13 ..... Set 6-in. 1,832 ft.

Miles & Strickland's No. 1 McGee, 17 ft. S, 26 ft. E. NW cor. Lot 18, Sec. 9-9-13 ..... Set 10-in. 60 ft.

Miles & Strickland's No. 1 Ross & Son, 150 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... W.O.S.R. 2,007 ft.

John W. Moffett's No. 1 Logan Oil Co., Sec. 3-9-13 .. W.O.S.R. 1,985 ft.

L. L. Posey's No. 3 Burkett, 330 ft. S and E, NW cor. NE NW, Sec. 10-9-13 ..... Set 10-in. 64 ft.

Reese and Martin's No. 1 Allen, 762 ft. S and 308 ft E NW cor., Sec. 10-9-13 ..... Comp. pumping 50 bbls. 2,021 ft.

Reese & Martin's No. 1 E. Harris, 360 ft. S, 190 ft. E. NW cor. SE NW Sec. 10-9-13 ..... Set 6-in. 1,765 ft.; T.D. 1,989 ft.

W. H. Rowe et al's No. 1 Craig, 330 ft. S and E, of center Sec. 22-9-13 ..... Set 10-in. 40 ft

Sabine Royalties Co.'s No. 2 Graham, 330 ft. N and E, SW cor. NW, Sec. 20-9-13 ..... P.B. to 2,030 ft.

J. E. Sedberry's No. 1 Morgan, NE cor. NW NW Sec. 10-9-13 ..... W.O.S.R. 2,003 ft.

Walter R. Smith's No. 1 E. K. Harris, Sec. 10-9-13..... Swabbing 1,998 ft.

Walter R. Smith's No. 1 Rheta Williams, Sec. 9-9-13 .... Set 10-in. 45 ft.

Stumpff & McFall's No. 1 Paul estate, Sec. 10-9-13 ..... Set 10-in. 62 ft.

Texas Trading Co.'s No. 1 Isgitt, 78 ft. N, 41 ft. W. SE cor., Sec. 9-9-13 ..... P.B. to 2,030 ft.

J. B. Williams' No. 1 Tatum, 330 ft. N and W, SE cor. NW SE Sec. 32-9-13 ..... Rigging up.

Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Location.

Winn & Caviness' No. 1 Paul est., 330 ft. N, 43 ft. W, SE cor. NW Sec. 9-9-13 ..... S.D.; W.O. 1,918 ft.

SABINE—ZWOLLE

H. C. Maulding's No. 1 Alford, 330 ft. S and W, NE cor. NW NW Sec. 13-7-10 ..... Derrick.

H. C. Maulding's No. 1 Van Vickhaven, 330 ft. N and W, SE cor. NE Sec. 1-7-11 ..... W.O.S.R. 2,300 ft.

Arkansas

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Partly rigged up and S.D.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26, Drlg. 1,080 ft.

LAFAYETTE COUNTY

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23 ..... Set 10-in. 52 ft.

George W. Harper's No. 2 Bodcaw, 150 ft. S, 550 ft. E NW cor. SW NW Sec. 16-15-22 ..... S.D. 1,216 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... Arranging to pump with jack 2,807 ft.

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27 ..... Drlg. 3,210 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28 ..... Drlg. 550 ft.

C. E. Murdock's No. 1 Rose, Sec. 4-16-26..... Pumped 25 bbls. oil and S.W.; P B.

C. E. Murdock's No. 1 Smith (formerly Baker & McMurray), 150 ft. N and W, SE cor. SE SW Sec. 33-15-26 ..... W.O.S.R. 2,926 ft.

Texarkana Oil Corp.'s No. 2 E. L. Beck, 240 ft. N 450 ft. E, SW cor. SW SE Sec. 33-15-26 ..... Comp. pumping 200 bbls. 2,931 ft.

OUACHITA COUNTY

L. L. McDonald's No. 1 J. A. Robertson, 300 ft. S and E, NW cor. NE NW Sec. 25-15-16 ..... W.O.S.R. 2,092 ft.

UNION COUNTY

E. R. Henderson's No. 2 J. H. Ogden, 320 ft. S and E, NW cor. SW SE Sec. 32-18-14 ..... W.O.S.R. 2,208 ft.

E. R. Henderson's No. 1 Vines, 320 ft. N and W, SE cor. SW SE Sec. 29-18-14 ..... Coring 2,232 ft.

Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-18-14 ..... Set 10-in. 102 ft.

Marine Oil Co.'s No. 2-E Thompson, Sec. 10-18-13..... Set 7-in. 3,555 ft.

Chas. Steele's No. 1 J. B. Combs, 150 ft. N, 185 ft. W, SE cor. SW NW Sec. 25-18-16 ..... Rigging up.

Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14 ..... Drlg. 3,145 ft.

Mississippi

GREENE COUNTY

United Gas Public Service Co.'s No. 1 Davis, C NW Sec. 30-1n-5w ..... Drlg. 2,750 ft.

NEWTON COUNTY

Bed Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11.... S.D. 3,300 ft.

SIMPSON COUNTY

Beavy Corp.'s No. 1 R. J. Beavy, C SW Sec. 33-3n-4e.. Arranging to set 6⅝-in. 2,325 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E. CWL, Sec. 14-14-1e ..... S.D. for csg. 3,161 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—RODESSA

Company, well, farm name, section and block—	Remarks:
Louana O. & G. Co.'s No. 2-A Hammock, C NW NE Sec. 5-18-16	Dry and abd. 2,800 ft.
R. W. Norton's No. 1-B J. B. French, 660 ft. S and E, NW cor., Sec. 34-23-16	Arrng. to set 5⅝-in. 6,534 ft.

CLAIBORNE PARISH

United Gas Public Service Co.'s No. 2 Tony Durrett, 38 ft. S, 50 ft. W of CNL NE NW Sec. 8-19-5..... Dry and abd. 4,659 ft.

MOREHOUSE PARISH

United Carbon Co.'s No. 1 Montgomery, 1,339 ft. S, 2,368 ft. E of C Sec. 9-21-6I ..... Set 4½-in. 2,468 ft.; T.D. 2,560 ft.

SABINE PARISH—ZWOLLE

Baird Bros.' No. 1 Cooper, 330 ft. S and W, NE cor. SE Sec. 30-8-11 ..... W.O.S.R. 2,580 ft.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... S.D. 1,100 ft.

Magnolia Pet. Co.'s No. 2 Gindratt, 330 ft. N, 320 ft. E, SW cor. SE Sec. 30-8-11 ..... T.A. 2,485 ft.

Magnolia Pet. Co.'s No. 2 Peterson, 990 ft. S, 330 ft. E. NW cor. NE NE Section 10-7-11 ..... Rigging up.

Monroe Prod. Co.'s No. 2 Sabine Lbr. Co., 330 ft. S and W, NE cor. SW NW Sec. 7-7-11 ..... Set 10-in. 40 ft.

Geo. L. Pace's No. 4 F. Greer, 330 ft. S and W, NE cor. NW Sec. 32-8-11 ..... Set 10-in. 60 ft.

J. H. Reeves' No. 1 Sabine Lbr. Co., 330 ft. N and S SE cor. NE NW Sec. 7-7-11 ..... Swabbing 2,700 ft.

C. T. Ruffin's No. 2 Williams, 330 ft. N and W, SE cor. NW NE Sec. 7-7-11 ..... Dry and abd. 2,558 ft.

A. H. Tarver's No. 2 Baur and Barthold, Sec. 25-8-12 .. S.D.; W.O. 2,639 ft.

L. J. Tillery's No. 1 Sabine Lbr. Co., 800 ft. S, 220 ft. W. NE cor. Lot 3, La. Nava grant, Sec. 5-7-11 ..... S.D. 2,475 ft. ft.

John Wrather et al's No. 1 Pruitt, 110 ft. W, 330 ft. N, SE cor. SW NE Sec. 25-8-12 ..... Junked hole, skidded over; drlg. 1,600 ft.

Mississippi

HINDS COUNTY

Alexander & Weaver's No. 1 Mayes, Sec. 25-6n-1e... .. Drlg. 350 ft.

RANKIN COUNTY

Benedum & Trees' No. 1 Southern Dev. Co., Sec. 35-3n-1e ..... Drlg. 1,050 ft.

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e ..... Partly rigged up and S.D.

Henslee & Tanner's No. 1 Sloan, 450 ft. S and E, NW cor. NW SW Sec. 7-5n-2e ..... Rigged up.

East Texas (Border Counties)

PANOLA COUNTY

Dale and Sneed's No. 1 Wooten estate, P. Martin Sur. .. Rigging up.

Holden and Nichols' No. 1 S. W. Ray, W. B. Culver Sur. ..... W.O. csg. 2,080 ft.

Keisker and Uanier's No. 1 Frost Lbr. Ind., Mary Potts Sur. ..... S.D. 2,409 ft.

C. R. Obermeyer et al's No. 1 Wooten estate, P. Martin Sur. ..... W.O. csg. 2,110 ft.

Rocunda and Acres' No. 1 Burnett Lbr. Co., J. H. Mallory Sur. ..... Rigging up.

Southern Prod. Co.'s No. 3 Wooten estate, P. Martin Sur. ..... S.D. 2,117 ft.

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